ATOMIC BIRTH CERTIFICATE MAY SAVE YOUR LIFE!

DAYTON PUBLIC LIBRARY

MECHANIX ILLUSTRATED

SEP 27 '57

THE HOW-TO-DO MAGAZINE

25c
OCTOBER

pecial! 50 PAGES
EXCITING NEW WAYS
FIX UP YOUR HOME!

ild a "Tropical" Playroom . . .
vel Window Wall . . . 40 Best
me Gadgets . . . Car Owner's
rkshop-Garage . . . Breakfast
ok in Kit Form . . . Update
ur Old Bathroom . . . Easy
w House Wiring Method . . .
us Dozens of Other Ideas

Latest Hobby—
SHOOT-YOUR-OWN ROCKET FLIES 1,000 FEET IN AIR, COMES DOWN BY PARACHUTE

See Page 68

HERE WAS THE

PROBLEM

1. Drab, colorless kitchen
2. No counter space
3. No cabinet space
4. Tight budget

HERE'S THE

SOLUTION

Working evenings and week-ends, an amateur with no previous carpentry experience, worked this happy change. He bought ready-made birch cabinets, inexpensive hemlock tongue and groove lumber for paneling and used 2 x 4 framing. For $53 he purchased enough Formica and Formica Contact Bond Cement to surface the snack bar, the sink top and the wall area behind the sink. He used Formica Red Capri #33-PR-1. He cut the Formica to size with a hand carpenter saw, used the spreader furnished with the cement and rolled it down with his wife's rolling pin.

And Here's the Formica Commercial—Formica is beautiful. It lasts a long, long time. It's easy and fun to apply. It comes in more than 70 colors, patterns and wood grains. There is only one genuine Formica and the name is printed in washable ink on each sheet. For your Formica dealer, look in the yellow pages of your phone book under "plastics."

FREE! Easy, step-by-step picture instructions for applying Formica to sink tops, furniture and many other surfaces. Write Formica Corp., Sub. of Amer. Cyanamid, 4724-7 Spring Grove Ave., Cincinnati 32, O. and ask for form #359. *In Canada: Arnold Banfield & Co., Ltd., Oakville, Ontario.*

Customers buy Formica because it is a brand name they know and trust

DEMAND THIS CERTIFICATION

We protect this faith in our product by certifying every sheet with a wash-off Formica marking. It is for your protection and guarantee that you are getting genuine Beauty Bonded Formica.

This mark certifies genuine

RUB OFF WITH LOTS OF BAR SOAP ON A DAMP CLOTH

Beauty Bonded FORMICA Laminated Plastic Pays in Performance

Guaranteed by Good Housekeeping

Subsidiary of CYANAMID

Seeing is believing. If this wash-off identification is not on the surface, it's not FORMICA.

ith no
hange.
ensive
d used
ca and
k bar,
e used
to size
nished
ng pin.
beau-
apply.
grains.
printed
er, look
astics."

MICA.

Ca

4

Fo

Cast your ballot for a successful future!

256 I.C.S. COURSES

Whether you stand at a machine or sit at a desk . . . whether you're making $75 a week or $75 hundred a year . . . whether your interest is Power Plants or Paper Pulp, Advertising or Electronics . . . chances are I.C.S. has exactly the course you need to get ahead.

I.C.S. is not only the oldest and largest correspondence school. It also offers the most courses. 256 in all. Each one success-proved by graduates who rose to top technical and administrative positions. Chief engineers. Superintendents. Foremen. Managers. Executive assistants.

I. C. S. Courses cover bedrock facts and theory plus practical, on-the-job applications. No skimping. Texts are prepared by leading business and industrial authorities working with I. C. S. editors and educators. They are constantly being reviewed and revised in line with current developments.

As an I. C. S. student, you study in your spare time, set your own pace. No time lost getting to class or waiting for slower students to catch up. If you wish, I. C. S. will make progress reports to your employer. You win recognition as a "comer," one who is ready to move ahead. Thousands of students report pay increases and promotions within a few months of enrollment. All graduates win the coveted, approved I. C. S. diploma.

3 FREE BOOKS! Check the subject that interests you in the coupon below. I. C. S. will rush you (1) a special book outlining your opportunities in this field, (2) the 32-page gold mine of career tips, "How to Succeed," (3) a sample I. C. S. lesson (Math.) demonstrating the famous "I. C. S. Method." "X" MARKS OPPORTUNITY.

For Real Job Security—Get an I. C. S. Diploma! **I. C. S., Scranton 9, Penna.** **Member, National Home Study Council**

INTERNATIONAL CORRESPONDENCE SCHOOLS

ICS

BOX 23019J, SCRANTON 9, PENNA. (Partial list of 257 courses)

Without cost or obligation, send me "HOW to SUCCEED" and the opportunity booklet about the field BEFORE which I have marked X (plus sample lesson):

ARCHITECTURE and BUILDING CONSTRUCTION
- ☐ Air Conditioning
- ☐ Architecture
- ☐ Arch. Drawing and Designing
- ☐ Building Contractor
- ☐ Building Estimator
- ☐ Carpentry and Millwork
- ☐ Carpenter Foreman
- ☐ Heating
- ☐ Interior Decoration
- ☐ Painting Contractor
- ☐ Plumbing
- ☐ Reading Arch. Blueprints

ART
- ☐ Commercial Art
- ☐ Magazine & Book Illus.
- ☐ Show Card and Sign Lettering
- ☐ Sketching and Painting

AUTOMOTIVE
- ☐ Automobiles
- ☐ Auto Body Rebuilding and Refinishing
- ☐ Auto Engine Tuneup
- ☐ Auto Technician

AVIATION
- ☐ Aero-Engineering Technology
- ☐ Aircraft & Engine Mechanic

BUSINESS
- ☐ Accounting
- ☐ Advertising
- ☐ Business Administration
- ☐ Business Management
- ☐ Cost Accounting
- ☐ Creative Salesmanship
- ☐ Managing a Small Business
- ☐ Professional Secretary
- ☐ Public Accounting
- ☐ Purchasing Agent
- ☐ Salesmanship
- ☐ Salesmanship and Management
- ☐ Traffic Management

CHEMICAL
- ☐ Analytical Chemistry
- ☐ Chemical Engineering
- ☐ Chem. Lab. Technician
- ☐ Elements of Nuclear Energy
- ☐ General Chemistry
- ☐ Natural Gas Prod. and Trans.
- ☐ Petroleum Prod. and Engr.
- ☐ Professional Engineer (Chem)
- ☐ Pulp and Paper Making

CIVIL ENGINEERING
- ☐ Civil Engineering
- ☐ Construction Engineering
- ☐ Highway Engineering
- ☐ Professional Engineer (Civil)
- ☐ Reading Struc. Blueprints
- ☐ Structural Engineering
- ☐ Surveying and Mapping

DRAFTING
- ☐ Aircraft Drafting
- ☐ Architectural Drafting
- ☐ Drafting Machine Design
- ☐ Electrical Drafting
- ☐ Mechanical Drafting
- ☐ Sheet Metal Drafting
- ☐ Structural Drafting

ELECTRICAL
- ☐ Electrical Engineering
- ☐ Elec. Engr. Technician
- ☐ Elec. Light and Power
- ☐ Practical Electrician
- ☐ Practical Lineman
- ☐ Professional Engineer (Elec)

HIGH SCHOOL
- ☐ High School Diploma
- ☐ Good English
- ☐ High School Mathematics
- ☐ Short Story Writing

LEADERSHIP
- ☐ Industrial Foremanship
- ☐ Industrial Supervision
- ☐ Personnel-Labor Relations
- ☐ Supervision

MECHANICAL and SHOP
- ☐ Diesel Engines
- ☐ Gas-Elec. Welding
- ☐ Industrial Engineering
- ☐ Industrial Instrumentation
- ☐ Industrial Metallurgy
- ☐ Industrial Safety
- ☐ Machine Design
- ☐ Machine Shop Practice
- ☐ Mechanical Engineering
- ☐ Professional Engineer (Mech)
- ☐ Quality Control
- ☐ Reading Shop Blueprints
- ☐ Refrigeration and Air Conditioning
- ☐ Tool Design ☐ Tool Making

RADIO, TELEVISION
- ☐ General Electronics Tech.
- ☐ Industrial Electronics
- ☐ Practical Radio-TV Eng't's
- ☐ Practical Telephony
- ☐ Radio-TV Servicing

RAILROAD
- ☐ Car Inspector and Air Brake
- ☐ Diesel Electrician
- ☐ Diesel Engr. and Fireman
- ☐ Diesel Locomotive

STEAM and DIESEL POWER
- ☐ Combustion Engineering
- ☐ Power Plant Engineer
- ☐ Stationary Diesel Engr.
- ☐ Stationary Fireman

TEXTILE
- ☐ Carding and Spinning
- ☐ Cotton Manufacture
- ☐ Cotton Warping and Weaving
- ☐ Loom Fixing Technician
- ☐ Textile Designing
- ☐ Textile Finishing & Dyeing
- ☐ Throwing
- ☐ Warping and Weaving
- ☐ Worsted Manufacturing

Name_____ Age_____ Home Address_____

City_____ Zone_____ State_____ Working Hours_____ A.M. to P.M._____

Occupation_____

Canadian residents send coupon to International Correspondence Schools, Canadian, Ltd., Montreal, Canada. . . . Special tuition rates to members of the U. S. Armed Forces.

MECHANIX ILLUSTRATED

A FAWCETT PUBLICATION

"HOW-TO" HIGHLIGHTS IN THIS ISSUE

- How To Get Your Limit Of Geese —Page 82
- How To Foil The Repair Crooks —Page 89
- How To Rejuvenate Your Home —Pages 106-155

SPECIAL FEATURES

Wanted! An Atomic Birth Certificate.....*Harry Kursh* 57
Shoot-Your-Own Rockets (Cover).....*G. Harry Stine* 68
Water Wings For Ocean Liners.....*Frank Tinsley* 84
Danger! Appliance Repair Crooks At Work *Lester David* 89
Will You Heat With Electricity?.....*C. Lester Walker* 100

TOM McCAHILL

Tests The Vauxhall Victor..... 92
Tests The Morris 1000..... 96
Mail For McCahill..... 103

REGULAR FEATURES

Eye-Stopper..... 63
MMI: He Sells Meals On Wheels.....*James Joseph* 64
MI's Bright Idea Award: Jiffo-Jet Handle..... 77
It's New!..... 78
Hunting & Fishing: Get Your Limit Of Geese *Wynn Davis* 82
Inventions Wanted!..... 99

SHORT FEATURES

Pigs Test Jets..... 62
New Sports Car Comes Out..... 66
Ups-A-Daisy..... 72
MG With Rumble Seat..... 73
Machine-Made Muscles..... 74
Smile And Slow Down..... 76
Hurrying Hounds Of Kansas..... 88
Banana-Shaped Eggs/Punchlines..... 95
New King-Sized Midget..... 104

DEPARTMENTS

Invention Clinic..... 20
Dear Editor..... 26
What's New?..... 38
Speaking Of Jobs: Scaler Downer..... 40
Help Wanted..... 53

(continued on page 6)

Cover painting by Philip Ronfor

OCTOBER 1957

W. H. FAWCETT, JR. president
ROGER FAWCETT general manager
ROSCOE K. FAWCETT circulation director
GORDON FAWCETT secretary-treasurer
RALPH DAIGH editorial director
JAMES B. BOYNTON director of advertising
AL ALLARD art director
RALPH MATTISON associate art director

WILLIAM L. PARKER editor

ROBERT G. BEASON assistant editor

LAWRENCE SANDERS feature editor
J. ROBERT CONNOR news editor
HARVEY GARDNER science editor

ROBERT BRIGHTMAN home & shop editor
JOHN J. SMITH associate editor
DICK HOWE associate editor
FRED COSPITO art editor
BILL FLEMING art associate
JERRY CURCIO art associate
LEONARD ULINE art associate
WALTER MESAROS art assistant

HELEN E. SLOWIN production editor
JOHN WEBSTER east. adv. mgr.

VOLUME 53, NUMBER 10

Permission hereby granted to quote from this issue of this magazine on radio or television, provided a total of not more than 1,000 words is quoted and credit is given to the title of the magazine and issue, as well as the statement, copyright 1957, by Fawcett Publications, Inc.

MECHANIX ILLUSTRATED is published monthly by Fawcett Publications, Inc., Fawcett Building, Fawcett Place, Greenwich, Conn. Editorial offices: 67 W. 44th St., New York 36, N. Y. Advertising offices: 67 W. 44th St., New York 36, N. Y.; 612 N. Michigan Ave., Chicago 11, Ill.; Townsend-Millsap, 672 S. Lafayette Park Place, Los Angeles 57, Cal. and, 110 Sutter Street, San Francisco 4, Cal.; 1650 Guardian Bldg., Detroit 26, Mich., Hale Printup Asso., Langford Bldg., Miami 32, Fla. Entered as second class matter at the post office at Greenwich, Conn., under the act of March 3, 1879, with additional entry at Louisville, Ky. Printed in U. S. A. Title registered in the U. S. Patent Office. Copyright 1957 by Fawcett Publications, Inc. Reprinting in whole or in part forbidden except by permission of the publishers. Address manuscripts to New York editorial office. Unacceptable contributions will be returned if accompanied by sufficient first class postage. Not responsible for lost manuscripts or photos. All remittances and correspondence concerning subscriptions as well as notification of change of address should be addressed to MECHANIX ILLUSTRATED Circulation Dept., Fawcett Place, Greenwich, Conn. Price 25c a copy. Subscription price $3.00 per year in the U. S. and possessions and Canada. All other countries $6.00 per year. Subscription price to members of the armed forces $2.75 per year. Foreign subscriptions and sales should be remitted by International Money Order in U. S. funds payable at Greenwich, Conn.

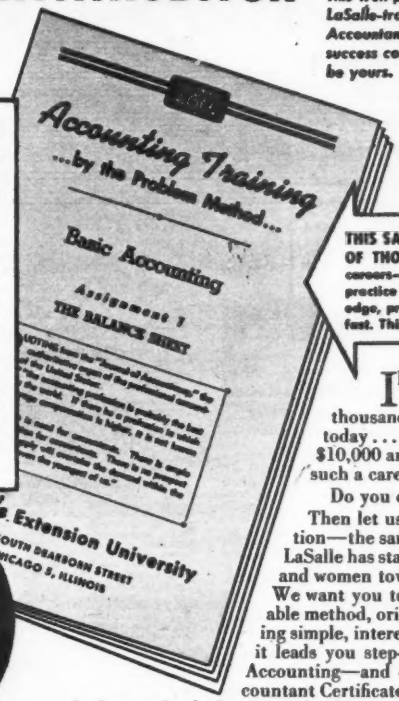
MEMBER AUDIT BUREAU OF CIRCULATIONS

THIS FREE SAMPLE LESSON

will prove that you can become an expert

ACCOUNTANT...AUDITOR OR CPA

This well-paid LaSalle-trained Accountant's success could be yours.



FREE SAMPLE LESSON

We offer you this free sample lesson so that you can *prove to yourself* that you CAN master Accounting—quickly, thoroughly—in spare time at home.

You will see exactly how LaSalle's famous "Problem Method" works...how you are led step-by-step through actual accounting work—*learning by doing* and not by study of theory alone. First you tackle easy problems, then more difficult ones—until soon you master them all. And at every step you have the close personal guidance of LaSalle's large staff of expert accountants and CPA instructors.

THIS SAME LESSON HAS STARTED HUNDREDS OF THOUSANDS toward well-paid accounting careers—in business, government, and public practice as CPAs. Even without previous knowledge, progress is rapid—earning power climbs fast. This sample lesson will show you why.

One out of every 13 of all CPAs in the U.S. has been trained by the LaSalle Problem Method

IF you have been envying the high incomes and good jobs enjoyed by thousands of men and women Accountants today... incomes ranging from $5,000 to $10,000 and more per year...why not launch such a career for yourself?

Do you doubt that you can?

Then let us send you—without cost or obligation—the same Lesson Number One with which LaSalle has started several hundred thousand men and women toward successful accounting careers. We want you to see for yourself how this remarkable method, originated by LaSalle, makes Accounting simple, interesting, practical, and certain...how it leads you step-by-step to a complete mastery of Accounting—and on up to the Certified Public Accountant Certificate if you so aspire. It doesn't matter whether you've had previous bookkeeping experience, or whether you don't know a debit from a credit. Whether you wish to qualify as an expert accountant, advanced accountant, cost accountant, auditor, government accountant, income tax specialist, or public accountant...you'll find in LaSalle's Problem Method the exact plan to prepare you rapidly and inexpensively—in spare hours at home—without losing a day from your present job.

So right now, today...if you are an adult, employed, and earnestly ambitious for rapid advancement in one of the highest paying fields of business... send your name and address on the coupon below. We'll send you the free sample lesson—plus our illustrated book outlining today's career opportunities and how you can qualify for them. A coupon like this has started many thousands toward greater success. It can do the same for you. Mail it today!

Accredited Member, National Home Study Council

GOOD-PAY JOBS IN 6 BIG FIELDS

If you were an expert accountant right now, chances are you would find yourself in one of the best paid fields of business.

There are several big fields of opportunity open to men and women trained in accounting...opportunities that are wide open and highly inviting, offering maximum income and job security in good times or bad. And under LaSalle's "Problem Method" you can start earning while still learning—either in spare-time or full-time employment...or in business for yourself with no capital required.

Get the latest information by sending for our illustrated booklet, "Opportunities in Accounting"—plus free sample lesson. The coupon at right will bring both to you without cost or obligation. LaSalle Extension University, 417 S. Dearborn St., Chicago 5, Illinois.

Clip Coupon ... Mail TODAY!

LaSalle Extension University ... *A Correspondence Institution*

Dept. 10493H, 417 S. Dearborn Street, Chicago 5, Illinois

YES. I want to see how LaSalle's "Problem Method" works... Send me free sample lesson—also your book, "Opportunities in Accounting"...without cost or obligation.

Name.....*Age*.....

Street Address.....

City, Zone & State.....

This Remington Typewriter PAYS FOR ITSELF Puts $10 to $50 in Your Pocket Every Week!

- ***Exclusive Sale-by-Mail Offer!***
- ***No Salesmen, No Canvassers, No Representatives Ever Call!***
- ***Typewriter Shipped to Your Door FREE Anywhere in U.S.A.***
- ***100% Full Factory Guarantee!***

ATTENTION READERS! This $1-a-week offer plus FREE Gifts as shown below NOT available anywhere else—only by mail and only from Thoresen, Inc., 585 Water Street, New York 2, N. Y. Foremost coast-to-coast Remington Rand Distributor. Thousands of typewriters already mailed. Rush coupon below for yours TODAY!

Free

57 Ways to Make from $10 to $50 Weekly in Spare Time!

Along with your Quiet-Riter you receive the valuable, copyrighted manual "57 Ways to Make Extra Money with Your Typewriter." Truly a goldmine of help! Opens doors of opportunity you never knew existed. Shows you what to do, how to do it, step by step. Housewives, men, students in every walk of life now make good extra cash REGULARLY—including many WHO NEVER TYPED BEFORE! It's easy and it's fun! Work right at home in spare hours. No experience or special talents needed. Manual can be worth HUNDREDS OF DOLLARS to you in business secured—but it's yours FREE to prove to you, as we've proven to others, typewriter can PAY FOR ITSELF! But this manual is ours alone, cannot be bought anywhere.

Free

500 Firms Who Use Typewritten Lists—Some in Your Vicinity!

These firms are swamped with MILLIONS of envelopes, cards, letters to address. They LOSE MONEY if they don't have enough help to get the work done. Get your share of this business. No matter where you live, there are firms in YOUR VICINITY! Earn $1.00 to $2.00 an hour—and more—in spare-time work—often RIGHT AT HOME! We list names, addresses & the right people to contact. No time, effort or expense spared to compile this valuable list. This list cannot be purchased any where—ours alone! Yet we give it FREE with your typewriter!

This amazing $1-a-week offer plus FREE gifts available only by mail—and only from famous THORESEN, Inc., 585 Water Street, New York 2, N. Y., foremost coast-to-coast Remington typewriter distributor and dealer!

Free

We Pay all Shipping!

Your typewriter comes in its original factory-sealed carton with Remington's guarantee of Satisfaction, Protection and Service IN WRITING and is delivered PREPAID. We pay all handling, crating, shipping and insurance costs. You don't pay another cent until 30 days AFTER you receive & are using the machine. Even then you remit only $1 a week, paid monthly. We ship anywhere in U.S.A. Everything done by mail. No salesmen ever calls. This is the one and only offer of its kind in America! Thousands of typewriters already distributed to folks. Letters of praise pour in almost daily. "I've earned $22.00!" . . . "Typewriter is beautiful!" "Son's marks up 10 points!"

Free

SELF-INSTRUCTION BOOK

Starts you on "touch typing" in 5 minutes! Same principles as $40.00 business college courses—yet you pay not one cent for our acce'erated "course-in-print." Everybody learns how to type—from junior to dad himself!

Free

Carrying Case Free of Any Extra Cost!

Luxurious! Handsome! As elegant as a fine piece of luggage—with safety lock—yours free of any extra cost.

Hurry! This is the offer you've seen advertised in The American Home, VFW, Moose and Elks Magazines, N. Y. Herald Tribune, Harper's Bazaar, Puck, etc. Typewriters shipped on first-come, first-served basis. Don't lose out on the most sensational offer of its kind! This offer is ours exclusively—only by mail—Only from us! Mail coupon with only one dollar for everything!

SENSATIONAL GOOD NEWS! Now you may have the brand-new, latest-model Remington Quiet-Riter shipped to you by mail for only $1. Yes, just ONE DOLLAR brings you the most modern, most advanced, most beautiful portable in the world—and in your choice of exciting decorator colors!

REMINGTON PAYS FOR ITSELF—MAKES MONEY FOR YOU!

Yes, along with your typewriter, you receive our copyrighted manual that shows you how to make from $10.00 to $50.00 a week with your typewriter . . . in your spare time RIGHT AT HOME! This manual is ours exclusively. It cannot be purchased anywhere, at any price. It helps you make your Remington PAY FOR ITSELF—even bring you a weekly profit! And it's yours FREE—available only from us by mail!

STUDENTS WHO TYPE GET 38% BETTER GRADES!

What will YOUR children be when they grow up? Tests by leading educators prove that boys and girls who type get up to 38% better grades. Typewritten work is neater, easier to read—and study from! Teachers like to receive typed reports, homework, compositions, etc. A Quiet-Riter is one of the finest investments you can make in your children's future. It inspires them to do even better school work, helps them forge ahead in class after class, become LEADERS! And the Quiet-Riter keeps helping your children in elementary school, in high school and right through college!

SAVE MONEY! DIRECT TO YOU AT LOW FACTORY PRICE!

The Quiet-Riter is a streamlined masterpiece that performs like big office machines that cost $275.00 plus tax. It has a full office-size 88-character keyboard and other office machine features. Many business firms, doctors, lawyers and other professionals—who could easily afford to pay $275.00—actually PREFER the Quiet-Riter for their offices and homes. Yet the Quiet-Riter (Remington's very best home typewriter) is factory-priced at LESS THAN HALF THAT $275.00 FIGURE . . . only $130 plus tax. YOU SAVE MONEY! Best news of all, you pay only $1 now and just a $1 a week—paid monthly. TAKE 3 FULL YEARS TO REMIT! Everything done by mail.

BUILT TO LAST A LIFETIME!

A typewriter will be used by every member of the family for years and years . . . and years! It should be built to withstand rugged use and handling. Don't "sink" your money into cheaper, inferior models that may fall apart after six months—then bring you aggravation and mounting repair bills. These models have FEWER keys, FEWER features, are much SMALLER, have INFERIOR construction, and their resale value depreciates fast to "almost nothing." Don't be penny wise and pound foolish! The best is the most economical in the long run. Your Quiet-Riter is built to last, with ordinary attention, a full LIFETIME! What's more, it has HIGHER cash value, HIGHER re-sale value, HIGHER trade-in value. It's favorite among writers, executives, teachers, students, housewives—and small businessmen too!

RUSH $1 NOW BEFORE OUR OFFER ENDS!

But you must act now. Even Remington with its vast production facilities cannot keep up with the demand. Mail this coupon below with one dollar.

RUSH ONE DOLLAR FOR TYPEWRITER!

THORESEN, Inc., Dept. 10-L-145
585 Water Street, New York 2, N. Y.

Here is my dollar (cash, check or money order) toward delivery of the new Remington Rand Quiet-Riter. Include carrying case, typing manual FREE, and valuable manual on how I can earn up to $50.00 a week also FREE! Only after I receive my typewriter, will I send you $1 weekly.

CHECK THE TYPEWRITER COLOR YOU WANT
☐ Gray ☐ Green ☐ Brown

PRINT NAME _____

ADDRESS _____

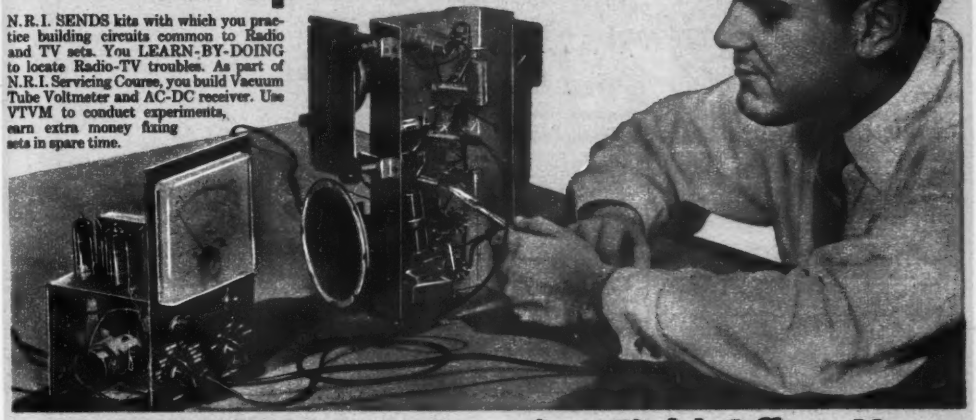
CITY _____ ZONE _____ STATE _____

☐ Check here if under 21 ☐ Check here if housewife

Learn Radio-Television

Servicing or Communications

by Practicing at Home in Spare Time



N.R.I. SENDS kits with which you practice building circuits common to Radio and TV sets. You LEARN-BY-DOING to locate Radio-TV troubles. As part of N.R.I. Servicing Course, you build Vacuum Tube Voltmeter and AC-DC receiver. Use VTVM to conduct experiments, earn extra money fixing sets in spare time.

RADIO-TV BROADCASTING (see above) offers important positions as Operators and Technicians. RADIO-TV SERVICING Technicians (see below) needed in every community. Their services are respected, their skill appreciated.

Fast Growing Field Offers You Good Pay, Success, Bright Future

J. E. SMITH
Founder

Bigger than ever and still growing fast. That's why Radio-TV has special appeal to ambitious men not satisfied with their job and earnings. More than 4,000 Radio and TV stations. More than 150 million home and auto Radios, 40 million TV sets. Color TV promises added opportunities. For the trained man, there are good jobs, bright futures in Radio-TV Servicing or Broadcasting.

Training PLUS opportunity is the *ideal combination* for success. So plan *now* to get into Radio-TV. The technical man is looked up to. He does important work, gets good pay for it. Radio-Television offers that kind of work. NRI can supply training quickly, without expense of going away to school. Keep your job while training. You learn at home in your spare time. NRI is the OLDEST and LARGEST home study Radio-TV school. Its methods have proved successful for more than 40 years.

Added Income Soon - $10, $15 a Week in Spare Time

Soon after enrolling, many NRI students start to earn $10, $15 a week in spare time fixing sets. Some pay for their training and enjoy extra luxuries this way. Some make enough to start their own Radio-TV shops. NRI training is *practical*—gets quick results. Easy to understand, well illustrated lessons teach you basic principles. And you LEARN-BY-DOING by practicing with kits of equipment which "bring to life" things you study.

Find Out What NRI Offers

NRI has trained thousands for successful careers in Radio-TV. Study fast or slow—as you like. Diploma when you graduate. Mail coupon now. Paste it on a postcard or mail in envelope. ACTUAL LESSON FREE. Also 64 page catalog that shows opportunities, shows equipment you get. Cost of NRI courses low. Easy terms. **NATIONAL RADIO INSTITUTE, Dept. 7HC, Washington 16, D. C.**

N.R.I. TRAINED THESE MEN FOR SUCCESS

"I was repairing Radios by 10th lesson. Now have good TV job." M. R. LINDEMUTH, Fort Wayne, Ind.

"Doing spare time repairs on Radio and TV. Soon servicing full time." CLYDE HIGGINS, Waltham, Mass.

"I had a successful Radio repair shop. Now I'm Engineer for WHPE." V.W.WORKMAN, High Point, N.C.

"There are a number of NRI graduates here. I can thank NRI for this job." JACK WAGNER, Lexington, N. C.

VETERANS Approved Under G. I. Bills

SEND FOR BOTH FREE

National Radio Institute
Dept. 7HC, Washington 16, D. C.

Mail me Sample Lesson and 64-Page Catalog FREE. (No salesman will call. Please write plainly.)

Name_____ Age____

Address_____

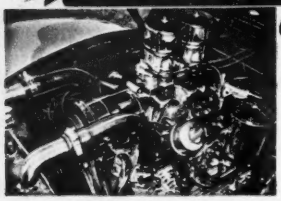
City_____ Zone____ State_____

Accredited Member National Home Study Council

Make your interest in

AUTO MECHANICS

& DIESEL PAY OFF!



OUR FAMOUS SHOP METHOD HOME TRAINING PREPARES YOU FOR BIG TIME PAY AT HOME IN SPARE TIME

YOU GET AND KEEP ALL THIS EQUIPMENT

Complete set of professional tools and All-Metal Tool Box. Same top-quality equipment used by expert mechanics everywhere. Use them, display them proudly.

"Motor Analyzing Set" contains Standard Engine Vacuum Fuel Pump Tester, Remote Starter Switch, Modern Timing Light, Standard Compression Tester. Plus compact carrying case & instructions.

Top - quality Socket Wrench with Fittings. Real professional tools you'll use during your lifetime career in repairing all types of engines, from foreign cars to big diesel jobs.

Nearly 60 million cars and trucks on our roads! If you could talk to owners of garages, service stations and car dealerships (as we do every day), you'd realize America's DESPERATE NEED FOR TRAINED MECHANICS.

Take your choice—One modern course prepares you for Auto-Mechanic jobs, Airplane Mechanics, Farm Machinery Repair, all Diesel Jobs, Experimental Labs, Government Work, Engine Specialties, etc. A qualified, ALL-AROUND Mechanic always has a good job.

Every phase is Shop-Tested! Streamlined lessons, diagrams, manuals are easy to understand. Earn as you learn. Free Graduate Employment Service.

FREE! VALUABLE BOOK & SAMPLE LESSON JUST SEND COUPON

RESIDENT TRAINING AT LOS ANGELES! If you wish to take Resident Training at Los Angeles, in our big, modern Shops & Labs, check special box in coupon for full information.

APPROVED FOR GI TRAINING

NATIONAL SCHOOLS

Los Angeles 37, California

NATIONAL SCHOOLS

TECHNICAL TRADE TRAINING SINCE 1905

LOS ANGELES 37, CALIFORNIA

NATIONAL SCHOOLS, Dept. DA-107

4000 S. FIGUEROA ST
LOS ANGELES 37, CALIF.

Send for FREE Auto-Diesel Opportunity Book and Sample Lesson.

NAME _____ AGE _____

ADDRESS _____

CITY _____ ZONE ____ STATE _____

☐ Check if interested ONLY in Resident School Training at Los Angeles

VETERANS: Give date of discharge _____

MI

SPECIAL

FIX UP YOUR HOME SECTION

continued from page 2

Tropical Basement 106

Window Wall 114

Shingling The Expert Way 120

Breakfast Nook Comes In A Kit 125

Add A Fireplace 128

New Wiring Devices Save Space 134

How To Modernize Your Bathroom 142

Getting The Most Out Of Your Garage 148

Forty Best Home Gadgets 152

PHOTOGRAPHY

Monthly Photo Contest 156

ASTRONOMY PAGE

Lensless Telescope 157

TRAIN FOR OPPORTUNITY FIELD OF

ELECTRONICS

ON REAL EQUIPMENT

IN THE GREAT SHOPS OF COYNE

LARGEST, OLDEST AND BEST EQUIPPED SCHOOL OF ITS KIND IN U.S.

This five story Chicago building is occupied entirely by Coyne. Five big floors of Classrooms and over a quarter of a million dollars worth of Equipment. Thousands of successful men have trained at Coyne. There is no substitute for Coyne's wealth of experience.

OPPORTUNITIES IN ELECTRICITY-ELECTRONICS

Train the Coyne way for a better job in *Electricity-Electronics—a field that offers a world of opportunities now and in the years ahead.* In industry—in the home—Electricity and Electronics are playing a vastly greater role than ever before. New developments and rapid growth are creating increasing job opportunities. Automation Electronics—one of the more recent applications of Industrial Electronics to manufacturing processes—promises to create additional demands for trained Electrical-Electronics men such as we have never seen. Electrical Training can be taken separately or combined with Television-Radio. Send coupon for more information.

Training in Refrigeration and Electric Appliances can be included.

YOU TRAIN IN CHICAGO – Learn the easier practical way in shops of Coyne in Chicago. Shop work plus technical training. No advanced education or previous experience needed. Lifetime Employment Service to Coyne Graduates.

START NOW—PAY LATER

New liberalized credit terms and Finance Plans. Part-time employment service to students. Help in making housing arrangements.

VETERANS OR NON-VETERANS

Coyne training is offered to Veterans and Non-Veterans alike. We'll send Bulletin giving full information. *Send coupon for details.*

1. You are told the how and why of each job.

2. You're shown how to do it by trained instructors.

3. You do the jobs yourself on finest equipment.

B. W. COOKE JR., President **COYNE ELECTRICAL SCHOOL** FOUNDED 1899

A Technical Trade Institute Operated Not For Profit
500 S. Paulina Street, Chicago, Dept. 77-53H
ELECTRICITY • RADIO • TELEVISION • REFRIGERATION • ELECTRONICS

TELEVISION—RADIO ELECTRONICS

Great opportunity for a good job or your own business in one of America's fastest growing branches of Electronics! New stations by the hundreds . . . new sets by the millions . . . and now Color TV . . . all means greater opportunities in Sales and Service. Separate courses in Radio-Television or in combination with Electricity-Electronics available. Coupon brings details.

Mail coupon for big free book!

48 Page Illustrated Book, ***"Guide to Careers"*** gives you all the facts. Whether you prefer Electricity-Television-Radio or Combined Electronics Training this book describes all training offered.

Information comes by mail. No obligation and no salesman will call.

Coyne Electrical School, Dept. 77-53H
500 S. Paulina St., Chicago 12, Ill.

Send BIG FREE BOOK and details of all training you offer. However, I am especially interested in

☐ **Electricity-Electronics** ☐ **Television-Radio**
☐ **Combined Electronics Training**

*Name*_____

*Address*_____

*City*_____ *State*_____

(I understand no Salesman will call.)

We Will Establish You in Your Own

MAIL ORDER

DISCOUNT BUSINESS!

Suppose you had a partner who offered to set you up in your own business as an Associate Discount Distributor. Suppose this partner has 40 years experience in the mail order field and has sold millions of dollars' worth of merchandise through the mails. Suppose such a partner offered to give you the benefit of this vast experience, supplied you with expertly prepared sales materials and offered to fill your orders for you. Would you miss such an opportunity?

You don't need a penny for merchandise because we will fill your orders for you UNDER YOUR NAME! We occupy our own building (3 floors), keep large stock on hand and make quick shipments. No service charge for drop shipments. No minimum order. We accept ALL orders, no matter how small or large! When you receive the orders and payment, you keep your profit, remit your low confidential cost to us and we will immediately ship under your name.

You can do all your business by mail, if you wish. What is truly extraordinary is that the catalogs, sales letters, advertising postcards and other sales materials we provide, all PRINTED WITH YOUR NAME AND ADDRESS, can actually cost you nothing! We can even obtain names of mail order buyers for you from our list brokers as an extra service.

You can do business any way you like. Sell at any price you like, any way you like and anywhere you like. NO RESTRICTIONS. Every item in year round demand, including Rogers silverware, appliances (electric cookers, skillets, irons, toasters, percolators, etc.), jewelry, watches, books, dinnerware, stainless steel tableware, gifts, etc.

You just won't believe the low confidential cost to you which makes it possible for you to sell at huge discounts from list prices and still make a big profit for yourself! For example, a 9-piece Sheffield stainless steel carving and steak knife set, list $29.95, costs YOU only $2.95! A complete matched 'waterless' cookware set, list $39.95, costs you $8.95! Nationally advertised $45 watches cost you $13.50! Stainless steel tableware as low as $2.60 for a complete set, etc., etc.

SEND NO MONEY! Coupon or postcard brings you, absolutely FREE, catalog, sales materials, confidential cost to you and complete details. Absolutely no obligation. If you are not convinced this can make your dreams come true, throw the materials away! Is that fair enough?

TOPVAL CORPORATION

LINDENHURST 151, NEW YORK

TOPVAL CORPORATION,
Lindenhurst 151, New York

FREE!

Rush, absolutely FREE and with no obligation on my part, catalog, sales materials and complete details how I can become an Associate Discount Distributor.

Name .....

Address .....

.....

Shrinks Hemorrhoids New Way Without Surgery

Science Finds Healing Substance That Relieves Pain—Shrinks Hemorrhoids

For the first time science has found a new healing substance with the astonishing ability to shrink hemorrhoids and to relieve pain — without surgery.

In case after case, while gently relieving pain, actual reduction (shrinkage) took place.

Most amazing of all — results were so thorough that sufferers made astonishing statements like "Piles have ceased to be a problem!"

The secret is a new healing substance (Bio-Dyne*)—discovery of a world-famous research institute.

This substance is now available in *suppository* or *ointment form* under the name *Preparation H.** Ask for it at all drug counters—money back guarantee. *Reg. U. S. Pat. Off.

TELEPHONES

and ALL SUPPLIES

Room to room, house to garage, private telephone service.

HANDSET CRADLE TELEPHONES (2) Complete outfit with 100' wire, 2 dry cells, instructions. $14.95

WORM HARVESTER—Dan Mac Magnets—gathers fishworms by electricity. Complete with instructions. $6.50

Illustrated bulletin AA-65 10¢

TELEPHONE REPAIR & SUPPLY CO., Dept. AA-65
1760 Lunt Ave., Chicago 26, Ill.

AMAZING NEW "TI-NEE" RADIO

Ti-nee Radio is GUARANTEED TO WORK FOR YOUR LIFETIME! USES NO TUBES BATTERIES OR ELECTRICAL PLUG-INS. Never runs down! SMALLER THAN A PACK OF CIGARETTES! RECEIVES LOCAL RADIO STATIONS MOST ANYTIME, ANYWHERE WITHOUT EXTRA ANTENNA. Uses Semi-Conductor crystal diode Hi-Q Tuner. Beautiful black gold—plastic cabinet. Built-in Speakerphone.

SEND ONLY $2.00 (bill, ck, mo) and pay postman $4.99 COD on arrival or send $6.99 for postpaid delivery. SENT COMPLETE READY TO LISTEN—NOTHING EXTRA TO BUY EVER! Extra Long distance Aerial kit included free to receive stations up to 1,000 miles away. Available only from:

MIDWAY COMPANY, Dept. GMI-10, KEARNEY, NEBRASKA

Catalog of 3000 Novelties 10c

Send 10c for amazing catalog of novelties, live animals, scientific supplies, hobbies, funmakers, planes & boats, looms, magic tricks, joke articles, unusual seeds, gadget timesavers, cameras, optical goods, projectors, movies, lucky jewelry, religious novelties, disguises, musical instruments, stamps, coins, puzzles, fortune tellers, radios, auto & bike accessories, telescopes, magnifiers, compasses, banks, smokers' gadgets, artists' supplies, printing sets, engines, motors, shockers, knives, billfolds, fireworks, guns, rifles, sports, books, games. Each 10c. 3 for 25c (Get for friends too)

JOHNSON SMITH & CO., Dept. 429, Detroit 7, Michigan

FREE WHOLESALE CATALOG

get up to 50% off

MAKE MONEY! SAVE MONEY! Buy Tools, Hardware, appliances, photo equipment, sporting goods, power tools, paints and thousands of other nationally advertised products at WHOLESALE COST TO YOU.

"SEND FOR FREE 1957 WHOLESALE CATALOG TODAY"

SILVO HARDWARE COMPANY

Dept. M.I.10, P.O. Box 266, Philadelphia 5, Pa.

LET DeVRY TECH PREPARE YOU IN SPARE TIME AT HOME AS AN

ELECTRONICS TECHNICIAN

NO PREVIOUS TECHNICAL EXPERIENCE OR ADVANCED EDUCATION NEEDED!

Laborers and bookkeepers, store clerks, shop men, farmers, salesmen — men of nearly every calling — have taken the DeVry Tech program and today have good jobs or service shops of their own in Electronics. You don't have to quit your present job. If you are 17 to 55, see how you may get yourself ready for a future in the fast-growing Electronics field.

Whether you prepare at home or in our well-equipped Chicago or Toronto Laboratories, you get sound, basic training in both principles and practice. At home, you use educational movies. You build actual circuits and test equipment. You read simple directions, follow clear illustrations. When you finish, you are prepared to step into a good job in an excitingly different field. You may even start a service shop of your own. Mail coupon for free facts today.

Live-Wire Employment Service

Puts you in touch with job opportunities—or helps you toward a better position in the plant where you are now employed.

Draft Age?

We have valuable information for every man of draft age; so if you are subject to military service, be sure to check the coupon.

SAMPLE BOOKLET FREE!

We'll give you a free copy of an interesting Booklet, "Electronics and YOU." See for yourself how you may take advantage of the opportunities in this fast-growing field.

"One of North America's Foremost Electronics Training Centers"

Accredited Member of National Home Study Council

DeVRY TECHNICAL INSTITUTE
CHICAGO 41, ILLINOIS
FORMERLY
DeFOREST'S TRAINING, INC.

26 YEARS DeVry Technical Institute

AN INDEX to a BETTER JOB, A BRIGHTER FUTURE

- Electronics
- Radar
- Guided Missiles
- Television
- Micro-Waves
- Communications
- Radio
- Industrial Electronics
- Computers
- Automation Electronics
- Remote Control Systems
- Broadcasting
- Your Own Service Shop

MAIL TODAY FOR FREE FACTS

DeVry Technical Institute
4141 Belmont Ave., Chicago 41, Ill., Dept. MI-10-N

Please give me your FREE booklet, "Electronics and YOU," and tell me how I may prepare to enter one or more branches of Electronics as listed above.

NAME _____ AGE _____
Please Print
STREET _____ APT. _____
CITY _____ ZONE _____ STATE _____

☐ Check here if subject to military training.

1090 DeVry Tech's Canadian Training Center is located at 626 Roselawn Avenue, Toronto 12, Ontario

REFRIGERATION
AIR CONDITIONING
INFORMATION IN A HANDY FORM

ASK TO SEE IT!

Every Serviceman, Mechanic & Operator can use AUDELS REFRIGERATION & AIR CONDITIONING GUIDE, containing Practical, Inside Trade Information on the whole subject of Refrigeration & Air Conditioning. Tells How to Service, Operate & Repair Modern Household, Commercial & Industrial Units & Air Conditioning Systems. 1360 Pages, 46 Chapters Fully Illustrated & Indexed for Quick Reference.

1001 FACTS

This big, highly indorsed book, easy to understand, gives useful basic principles on How to Repair & Install Compressors, Control Devices. How to locate Electric Motor Troubles. How to Service & Adjust Cold Storage Lockers, Quick Freezing Units, Dairy & Market Refrigerators, Ice Cream & Soda Fountains, How to Maintain Water Coolers, Marine Refrigeration, Plant Auxiliaries, Ice Making, Ammonia Plants, Brine Systems, Servicing Air Conditioning Systems, Replacement of Refrigerants including Freons, Heat Transmission & Pressure Temperature Charts, Tables, Duct Systems, Safety Codes, etc.

$6 ANSWERS YOUR QUESTIONS

Get this Information for Yourself. Mail Coupon today.
COMPLETE • PAY ONLY $2 A MONTH ←

Every Mechanic can Step Up his Skill with AUDELS GUIDES. Containing Practical Inside Information in a Handy Form. Covers facts and figures of your Trade. All illustrated and explained. Books sent to you for **7 DAYS FREE EXAMINATION.** Send No Money Nothing to Pay Postman. Check Books Wanted—Mail Today.

MAIL ORDER

AUDEL, *Publishers*, 49 W. 23 St., New York 10, N.Y.

Please send me for FREE EXAMINATION books marked (x) below. If I decide to keep them I agree to mail $2 in 7 Days on each book or set ordered and further mail $2 monthly on each book or set until I have paid price plus shipping charges. Otherwise, I will return them.

Check NOW!

You Can Look Over Any Guide In Your Own Home

Start the Easy Payments If Satisfied

MAIL THIS TODAY

- ☐ HOME APPLIANCE SERVICE GUIDE, 864 Pages $6
- ☐ AUTOMOBILE MECHANICS GUIDE, 1696 Pages. 6
- ☐ TRUCK & TRACTOR GUIDE, 1376 Pages..... 5
- ☐ DIESEL ENGINE MANUAL, 640 Pages..... 3
- ☐ MACHINISTS HANDY BOOK, 1728 Pages..... 6
- ☐ WELDERS GUIDE, 608 Pages 3
- ☐ BLUE PRINT READING, 448 Pages..... 3
- ☐ MATHEMATICS & CALCULATIONS, 752 Pages.. 3
- ☐ SHEET METAL PATTERN LAYOUTS, 1152 Pgs. 7.50
- ☐ SHEET METAL WORKERS HANDY BOOK, 448 Pgs. 2
- ☐ MECHANICAL DRAWING GUIDE, 192 Pages... 2
- ☐ MECHANICAL DRAWING & DESIGN, 480 Pages 3
- ☐ TELEVISION SERVICE MANUAL, 480 Pages... 3
- ☐ RADIOMANS GUIDE, 1088 Pages..... 5
- ☐ ELECTRONIC DEVICES, 304 Pages..... 3
- ☐ ELECTRIC MOTOR GUIDE, 1056 Pages 5
- ☐ WIRING DIAGRAMS (Light & Power), 304 Pgs. 2
- ☐ ELECTRICIANS EXAMINATIONS, 272 Pages .. 2
- ☐ ELECTRIC POWER CALCULATIONS, 480 Pages 3
- ☐ HANDY BOOK OF ELECTRICITY, 1520 Pages.. 5
- ☐ ELECTRIC DICTIONARY, 9000 Terms 3
- ☐ ELECTRIC LIBRARY, 7000 Pages (10 Book Set) 20
- ☐ REFRIGERATION & Air Conditioning, 1360 Pgs. 6
- ☐ MILLWRIGHTS & MECHANICS GUIDE, 1248 Pgs. 5
- ☐ POWER PLANT ENGINEERS GUIDE, 1568 Pages 5
- ☐ ENGINEERS & FIREMANS EXAMS, 544 Pages . 2
- ☐ PUMPS, Hydraulic & Air Compressor, 1760 Pgs. 6
- ☐ OPERATING ENGINEERS LIBRARY (3 Books) 12
- ☐ GARDENERS & GROWERS GUIDES (4 Book Set) 6
- ☐ CARPENTERS & BUILDERS GUIDES (4 Book Set) 8
- ☐ PLUMBERS & Steamfitters Guides (4 Book Set) 8
- ☐ MASONS AND BUILDERS GUIDES (4 Book Set) 8
- ☐ PAINTERS & DECORATORS MANUAL, 464 Pgs. 2
- ☐ HOUSE HEATING GUIDE, 1008 Pages..... 5
- ☐ OIL BURNER GUIDE, 416 Pages 2

Name _____

Address _____

Occupation _____ M 10

Employed by _____

☐ **SAVE SHIPPING CHARGES!** Enclose Full Payment With Coupon and We Pay Shipping Charges.

$8,750 FIRST YEAR . . . IN YOUR OWN BUSINESS

Start Part Time...We Furnish Everything

We locally train you to run your own business, furnish all equipment and supplies to clean & mothproof rugs and upholstery **on location** by world-wide process. No shop needed, you become quickly established. Just 2 average jobs a day bring $8,750 NET profit in year. Employ others and multiply your earnings. As member of world's largest organization of its kind you are backed by National Advertising, receive 25 regular services to help build your business. You'll be only one in town whose process bears famous Parents' Seal. Business grows rapidly due to recommendations and repeat jobs. Easy terms. Send now for fascinating FREE booklet with full details.

DURACLEAN CO.
7-170 Duraclean Bldg., Deerfield, Ill.

A POSTCARD CAN PUT YOU IN A FINE BUSINESS!

Rush Card Today for FREE Selling Outfit!

Get into a profitable business without spending 1c! Rush postcard for powerful FREE Sales Outfit that makes it easy to take orders for Mason's fast-selling line, including warm insulated Jackets, Boots, featuring Air-Cushion innersoles—over 190 dress, sport and work styles for men, women! Friends, people where you work, buy fast—pay you big profits. Just 2 combination shoe-jacket sales a day pay you up to $660 monthly EXTRA CASH! Folks must buy from you—Mason products never sold by stores! Start now! Rush postcard for FREE Outfit!

MASON Shoe Mfg. Co. Dept. 759 Chippewa Falls, Wis.

Learn To MOUNT BIRDS

Here's Best Hobby for Fun & Profit

TAN SKINS, MAKE UP FURS
Be a Taxidermist. We teach you at Home. Mount Birds, Animals, Pets, common specimens. Save your hunting trophies, decorate home and den. Make genuine KROME LEATHER, tan and make up furs for sparetime profit. INVESTIGATE TODAY

FREE BOOK 48 pages-tells all about it. Hunters, get your copy. It's New Free. Send post card. State your Age.
N. W. SCHOOL OF TAXIDERMY, DEPT. 2410, Omaha, Nebr.

REAL ESTATE BROKER

BE A BROKER

PAYS BIG! SEND FOR FREE, BIG, ILLUSTRATED CATALOG NOW! Graduates report making substantial incomes. Start and run your own business quickly. Men, women of all ages, learn easily. Course covers Sales, Property Management, Appraising, Loans, Mortgages, and related subjects. **STUDY AT HOME** or in classrooms in leading cities. Diploma awarded. Write TODAY for free book! No obligation.

FREE BOOK TELLS HOW

Approved for World War II and Korean Veterans

WEAVER SCHOOL OF REAL ESTATE (Est. 1936)
2020M Grand Avenue **Kansas City, Mo.**

MEN PAST 40

Troubled with GETTING UP NIGHTS, Pains in BACK, HIPS, LEGS, Tiredness Loss of Physical Vigor

If you have these symptoms then your troubles may be traced to Glandular Dysfunction . . . a constitutional disease. Medicines that give temporary relief will not remove the cause of your trouble. Neglect of Glandular Dysfunction often leads to premature old age and sometimes incurable malignancy.

The past few years men from over 3,000 communities have been successfully treated here at the Excelsior Institute. They have found soothing relief and a new health and zest in life.

The Excelsior Institute, devoted to the treatment of diseases peculiar to older men by **NON-SURGICAL** methods has a NEW FREE BOOK that tells how Glandular Dysfunction may be corrected by proven **NON-SURGICAL** treatments. This book may prove of utmost importance in your life. Write today. There is no obligation.

Excelsior Institute, Dept. B-3931, Excelsior Springs, Mo.

Learn at Home IN YOUR SPARE TIME to Fix Electrical Appliances

To build a better future, get into a field where there's much important work and the security that comes from knowing a good trade. Servicing electrical appliances offers that OPPORTUNITY. Every wired home has an average of 8 electrical appliances. Up to 10 million new appliances are sold every year and owners pay well to keep them in repair. That's making a fast-growing need for trained men.

Start Soon to Earn $3, $4, $5, an Hour Extra in Your Spare Time

Start soon to fix electric toasters, clocks, fans, vacuum cleaners and other appliances for neighbors and friends. Work in your basement, garage or spare room. Pick up $3 to $5 an Hour *extra that way*. It's easy to increase your earning power—to pay for this training many times over with your spare time earnings.

Learn and Earn with Multi-Use Tester Built with Parts We Send

This course includes the parts to build a portable, sturdy Appliance Tester that helps you locate electrical defects quickly and easily. You use it to learn and do actual electrical appliance repair jobs. If you want better pay learn this good trade. No need to give up your present job. You can train at home in your spare time for only $2.50 down and $5.00 a month. A small price to pay for increased earnings, a more secure future. Paste coupon below on a 2c postal or mail in envelope for free book and sample lesson. Address **National Radio Institute, Dept. CK7, Washington 16, D. C.**

2c TO MAIL THIS COUPON MAY START YOU TO SUCCESS

LESSON AND BOOK FREE

NATIONAL RADIO INSTITUTE, Dept. CK 7, Washington 16, D. C.

Please send me Electric Appliance Training lesson and book free. (No salesman will call.)

Name ..... Age .....

Address .....

City ..... Zone .... State .....

ACCREDITED MEMBER NATIONAL HOME STUDY COUNCIL

Multi-Million Dollar Business Now Being Split Up Among Home Operators in Small Communities

Inexpensive Table Top Machine Pays Profits UP TO $9.20 AN HOUR

The multi-million dollar Rubber Stamp Business is now being taken over by small home operators throughout the U.S. Men and Women who operate this inexpensive machine can turn out large numbers of Rubber Stamps with special wording of all kinds. Only 27c worth of material makes a stamp that sells for $1.80. The machine is easy for anyone to operate. It molds as many as six Rubber Stamps at a time, each with different wording such as names, addresses, notices, stock numbers, prices and other 'copy' needed by offices, factories and individuals. At full capacity, it can earn as much as **$9.20 an hour for the operator!** You don't need experience to get into this big profit business at home. We supply everything, including complete instructions and eight ways to get orders for stamps coming in fast. Start making up to $9.20 in one hour right away. We'll mail full particulars FREE; no salesman will call. Be first in your locality. Rush coupon.

RUBBER STAMP DIV. 1512 Jarvis Avenue, Dept. R-4-L, Chicago 26, Ill.

RUBBER STAMP DIV., Dept. R-4-L
1512 Jarvis Ave., Chicago 26, Ill.

Please mail all facts showing how I can get started in the profitable Rubber Stamp business at home in spare time. Everything you mail me is FREE and no salesman will call.

NAME.....

ADDRESS.....

CITY..... Zone..... STATE.....

PREPARE FOR BETTER JOB, BIGGER PAY IN SPARE TIME AT HOME

Today, choose the job you want—and prepare for it in time you might otherwise waste. Or if you are already in the work you like best, start training now for quicker promotion and increased pay. During the past 60 years AMERICAN SCHOOL has helped ambitious people to reach higher goals. Check subject that interests you and mail coupon for full information.

AMERICAN SCHOOL, Dept. G728, Drexel at 58th, Chicago 37, Ill.
Without obligation, please send FREE and postpaid, full particulars about the subject checked below.

- ☐ Accounting
- ☐ Apprenticeship Courses
- ☐ Architecture & Building
- ☐ Automotive Technician
- ☐ Better Foremanship
- ☐ Blueprint Reading
- ☐ Bookkeeping
- ☐ Business Management
- ☐ Civil Engineering
- ☐ Contracting
- ☐ Diesel Technician
- ☐ Drafting—Building Trades
- ☐ Drafting—Machine Trades
- ☐ Electrical Engineering
- ☐ Electricity—Practical
- ☐ Electronics—Industrial
- ☐ HIGH SCHOOL COURSES
- ☐ Machinists
- ☐ Mechanical Engineering
- ☐ Mechanical Technology
- ☐ Metalworking Courses
- ☐ Plumbing—Practical
- ☐ Private Secretary
- ☐ Retail Merchandising
- ☐ Salesmanship—Outside
- ☐ Sheet Metal Work
- ☐ Tool Making

Name ..... Occupation.....
Home Address..... Age.....
City..... State.....

Canadian: Write American School, Dept. G728, 6083 Sherbrooke St. W., Montreal

MAIL COUPON NOW

DRAFTING is the way to *Big Income* OPPORTUNITIES!

Learn at home in your spare time. Become a professional Draftsman. Enjoy good pay, respected position in an ever growing field. CHRISTY TRAINING is easy and clear. You learn by making actual drawings, planning production, see things develop. You learn the interesting, easy-to-remember way by doing.

PAY AS YOU LEARN PLAN

CTS will send you 50 illustrated drafting manuals, set of professional drafting instruments, equipment and supplies plus a portable drafting table . . . everything you need! Send name for **FREE BOOK** and **PAY LATER FORM.** CHRISTY TRADES SCHOOL, 4804 N. Kedzie, Dept. DB-6002, Chicago 25.

WESTINGHOUSE WORKBENCH MOTOR $3.95

Mount this small Westinghouse motor on your workbench and use it as a buffing, grinding, polishing wheel. It can also be fitted for light drilling, sanding, etc., or equipped with flexible shaft. Develops 1/60 h.p. at 7,000-8,000 r.p.m. on 110 volts AC. Some can be used on AC *and* DC. Shaft is ¼"; case has four mounting holes. Surplus and a solid bargain. $3.95 ppd.

LINCOLN PRODUCTS, 49-A EAST 41st ST., N. Y. 17

LAW FREE BOOK

THE LAW TRAINED MAN

Write today for a **FREE** copy of illustrated law book, "THE LAW-TRAINED MAN," which shows how to earn the professional Bachelor of Laws (LL.B.) degree through home study of the famous Blackstone Law Course. All necessary books and lessons provided. Moderate cost; convenient monthly terms. Write for **FREE** law training book today.

Blackstone School of Law, 307 N. Michigan Ave.
Founded 1890 **Dept. 67, Chicago 1, Ill.**

SHORTHAND IN 6 WEEKS

Famous SPEEDWRITING shorthand. 120 words per minute. No symbols; no machines; uses ABC's. Easiest to learn, write and transcribe. Low cost. 350,000 graduates. For business and Civil Service. Typing available. 35th Year. Schools in over 400 cities. Write for FREE booklet to:

Speedwriting®
Dept. 1710-7
55 W. 42 St., N. Y. 36, N. Y.

Better Than Your Own SHOE STORE AT HOME

No investment, no experience needed. Just show magic cushion comfort to friends, neighbors, co-workers. Advance commissions to $4.00 a pair, plus Cash Bonus, Paid Vacation, $25.00 Reward Offer. Outstanding values for men, women, children. Money back guarantee. Shoe samples supplied without cost. Write TODAY for FREE new 84 page catalog and full details.

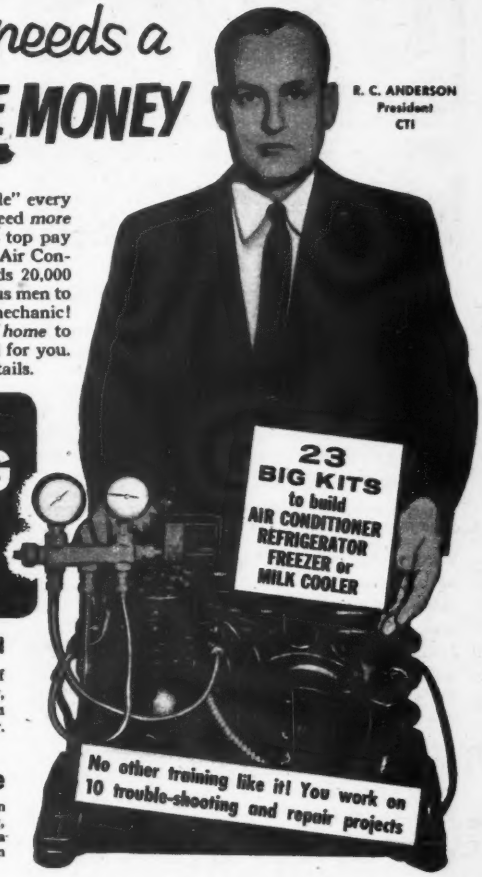
Two-Eyelet Hit With Cushioned Comfort

TANNERS SHOE CO., 449 BROCKTON, MASS.

Here's the BEST DEAL YET-

for the man who needs a

BETTER JOB-MORE MONEY



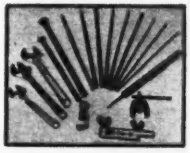
R. C. ANDERSON
President
CTI

If you're just "breaking even"... if you're "in the hole" every month... if your wife wants to look for work—you need *more money, a better job!* You can *have* a good job with top pay and security in the old, established, but *fast-growing* Air Conditioning and Refrigeration industry. This field needs 20,000 newly-trained mechanics every year. It needs ambitious men to open service shops. *It needs you!* Don't say you're no mechanic! We know that. We also know *we can train you at home* to become a skilled mechanic. CTI has a real good deal for you. *Just fill in and mail coupon* and we'll rush full details.

NOW YOU CAN LEARN
AIR CONDITIONING
AND REFRIGERATION
by practicing at home with real equipment!

YOU GET "FIELD EXPERIENCE" AS YOU TRAIN

You train at home in spare time. CTI sends you 23 big kits of parts and tools. You assemble a commercial-type, heavy-duty, ¼ h.p. refrigeration high-side (illustrated at right.) Then you build an air conditioner, refrigerator, freezer or milk cooler. All equipment included with training! No extra cost.



You Get Kits Like These

At left is photo of tools included in just one kit. You get other tools, tubing, much equipment. Kits are sent on a planned schedule so that you learn in easy stages. You learn fast, too!

In another kit (right) you get motor, fan, pulley, service tools. Kits develop skill, let you get experience, eliminate years of low-pay apprenticeship.

Add to Your Income by Earning Cash as You Train

CTI training is practical, just like working on actual jobs. Like other students, you'll want to do repair work for profit soon after starting. Many students pay their tuition this way, add to their incomes, even get started in a business. Get the facts about this. *Mail coupon.*

COMMERCIAL TRADES INSTITUTE • 1400 Greenleaf Ave. • Chicago 26, Illinois

YOUR BIG CHANCE TO OPEN A SERVICE SHOP

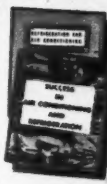
Want to be independent—be your own boss? The air conditioning and refrigeration field is one of the best. It's big, uncrowded, packed with opportunity. Start small and grow big. Many students do service work on a monthly fee basis—do repairing for shops, food stores, meat markets, etc. Others answer home calls. In time, they build up a customer list, open a shop. You could, too!

FIRST GET THE FACTS—THEN DECIDE

MAIL COUPON TODAY FOR 2 FREE BOOKS

COMMERCIAL TRADES INSTITUTE
1400 GREENLEAF AVENUE DEPT. R-405
CHICAGO 26, ILLINOIS

Rush me your booklet, *Success in Air Conditioning & Refrigeration*, and *Sample lesson*. Both FREE.



Name_____ Age____
Address_____
City_____ Zone____ State____

"TRAINING YOU CAN TRUST"

Why were these men great?

How does anyone—man or woman—achieve greatness? Is it not by mastery of the powers within ourselves?

Know the mysterious world within you! Attune yourself to the wisdom of the ages! Grasp the inner power of your mind! Learn the secrets of a full and peaceful life!

Benjamin Franklin, statesman and inventor . . . Isaac Newton, discoverer of the Law of Gravitation . . . Francis Bacon, philosopher and scientist . . . like many other learned and great men and women . . . were Rosicrucians. The Rosicrucians (NOT a religious organization) have been in existence for centuries. Today, headquarters of the Rosicrucians send over seven million pieces of mail annually to all parts of the world. Address: Scribe E.H.T.

THIS BOOK FREE

The ROSICRUCIANS

San Jose (AMORC) California, U.S.A.

SEND THIS COUPON

Scribe E.H.T.
The ROSICRUCIANS
(AMORC)
San Jose, California, U.S.A.

Please send me the *free* book, *The Mastery of Life*, which explains how I may learn to use my faculties and powers of mind.

Name_____

Address_____

City_____

State_____

VALVES STICKING? Get PYROIL

CLEANS & LUBRICATES
Frees sticky valves, cleans carburetor, tunes motor while you drive. Get more pep & power, more miles per gallon. Write for trial offer. Dept. MI-1
GUARANTEED . . . .

30c CAN ADD TO GAS

Nothing finer at any price
PYROIL LA CROSSE, WISCONSIN
TORONTO, CANADA

Loosens Rusted Bolts

nuts, screws, "frozen" parts!

LIQUID WRENCH

The super-penetrating rust solvent that quickly loosens rust and corrosion.

AT HARDWARE STORES, GARAGES SERVICE STATIONS, EVERYWHERE

RADIATOR SPECIALTY CO.
Charlotte, N. C.

MEN WANTED

Earn $100 Per Week and up
AUTO DIESEL MECHANICS

Master a trade with a future—learn Auto-Diesel mechanics in our shops. You learn with tools on real equipment. Earn while you learn. Many of our graduates earn $100 per week and up. No previous experience necessary. Day and night courses. Approved for veterans. Write for free bulletin.

NASHVILLE AUTO-DIESEL COLLEGE
226 7th Ave., N., Dept. 50 Nashville 3, Tenn.

MOTHER: Send for This!

8 Mistakes Parents *make*

Every parent should have this new book about child training. It is free; no obligation. Simply address

FREE BOOK

PARENTS ASSOCIATION
Dept. 9410-D, Pleasant Hill, Ohio

Covers all ages

DENTAL PLATE

MADE FROM YOUR OLD ONE AND RETURNED SAME DAY

New, Professional Method gives you natural-looking, perfect fitting plastic plate—upper, lower or partial, from your old, loose or cracked plate ***without an impression.*** *You don't pay a penny if you're not delighted.* New Clinical Method means fast service, huge savings.

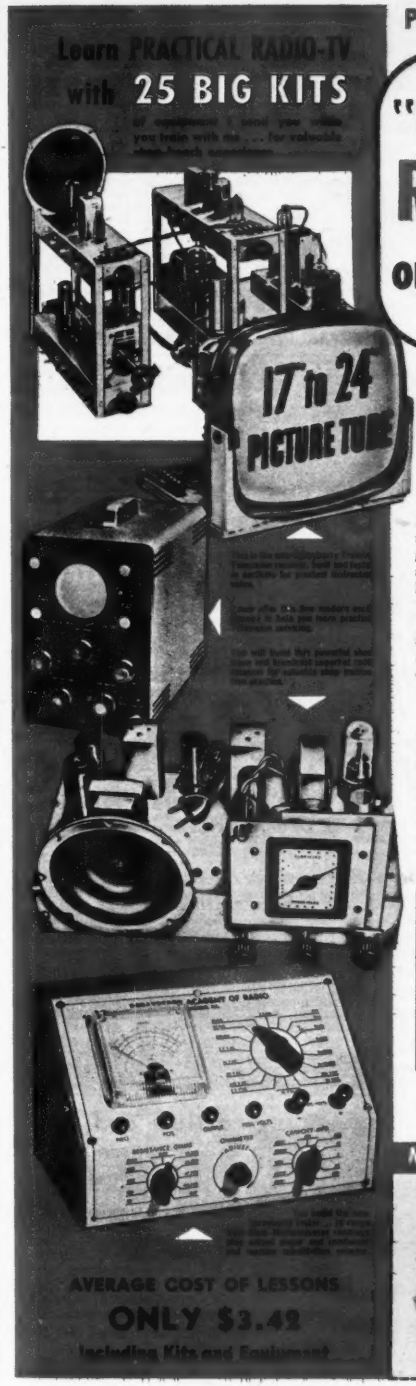
New Priced Low As **$15.95**

NATURAL LOOKING PERFECT FITTING OR 30 DAY TRIAL COSTS NOTHING

You must be satisfied. Our Iron-clad ***Guarantee*** lets you try your new plate for 30 days *entirely at our risk. New* plate returned to you Air Mail the SAME DAY we get your old one.

SEND NO MONEY Just your name and address and we'll rush full particulars about this amazing Clinical offer *free.* No cost. No obligation. *Write:*

CLINICAL DENTAL LABORATORY, Dept. P-10
335 W. MADISON STREET - CHICAGO 6, ILLINOIS



Prepare for a Good Paying Job—Or Your Own Business

"I Will Train You at Home in RADIO-TELEVISION on Liberal No Obligation Plan!"

Frank L. Sprayberry
Educational Director

New Equipment! New Lessons! Enlarged Course! The true facts are yours in my big new catalog . . . YOURS FREE . . .

JUST MAIL COUPON!

I can train and prepare you in as little as 10 months to step into the big opportunity Radio-Television service field. Train *without* signing a binding contract . . . without obligating yourself to pay any regular monthly amounts. You train entirely at home in spare hours . . . you train as fast or as slowly as you wish. You'll have your choice of THREE SPRAYBERRY TRAINING PLANS . . . planned for both beginners as well as the more experienced man. Get the true facts about the finest most modern Radio-Training available today . . . just mail the coupon for my big new 56 page fact-filled catalog plus sample lesson—both FREE.

Train the Practical Way—with Actual Radio-Television Equipment

My students do better because I train both the mind and the hands. Sprayberry Training is offered in 25 individual training units, each includes a practice giving kit of parts and equipment . . . all yours to keep. You will gain priceless practical experience building the specially engineered Sprayberry Television Training Receiver, Two-Band Radio Set, Signal Generator, Audio Tester and the new Sprayberry 18 range Multi-Tester, plus other test units. You will have a complete set of Radio-TV test equipment to start your own shop. My lessons are regularly revised and every important new development is covered. My students are completely trained Radio-Television Service Technicians.

NEWEST DEVELOPMENTS

Your training covers U H F, Color Television, F M, Oscilloscope Servicing, High Fidelity Sound and Transistors.

See for Yourself . . . Make Your Own Decision . . . Mail Coupon Today!

The coupon below brings you my big new catalog plus an actual sample Sprayberry Lesson. I invite you to read the facts . . . to see that I actually illustrate every item I include in my training. With the facts in your hands, you will be able to decide. *No salesman will call on you.* The coupon places you under no obligation. Mail it now, today, and get ready for your place in Radio-Television.

SPRAYBERRY ACADEMY OF RADIO-TELEVISION

1512 Jarvis Ave., Dept. 15-T, Chicago 26, Illinois

Mail This Coupon For Free Facts and Sample Lesson

SPRAYBERRY ACADEMY OF RADIO-TELEVISION
Dept. 15-T, 1512 Jarvis Ave., Chicago 26, Ill.

Please rush all information on your ALL-NEW Radio-Television Training Plan. I understand this does not obligate me and that no salesman will call upon me. Include New Catalog and Sample Lesson FREE.

Name_____ Age____

Address_____

City_____ Zone____ State____

LAW TRAINING
FOR BUSINESS
(In spare time at home)
Earn LL.B. Degree

Thousands of men and women who never intend to practice Law are studying it in spare time at home as an aid to business advancement.

Today Law is involved in practically every business decision. In many lines of work it is almost indispensable. Law training develops keen, clear, quick, correct and decisive thinking.

You can study LaSalle's American Law and Procedure right in the privacy of your own home—progressing as rapidly as your time and ability permit. For nearly 50 years we have helped over 1,350,000 ambitious people get ahead in the business world.

A MOST UNUSUAL LAW LIBRARY

This training includes the 14-volume LaSalle Law Library—AMERICAN LAW AND PROCEDURE—that is the basis of all our instruction service. This library has been compiled by leaders in the field of Law. It covers the whole field in an orderly and simple manner that is easy to learn and understand. Collateral reading and printed lectures, furnished at regular intervals, supplement the texts. Law instructors personally supervise your program. Under the LaSalle method you learn by actually solving legal problems—not just memorizing rules.

WRITE FOR TWO FREE BOOKS

Send the coupon below TODAY and find out how you can qualify for the many fine openings available to the law-trained man. In our FREE books "Law Training for Leadership" and "Evidence" you will find answers to your questions about the study of Law and the LaSalle method.

——MAIL COUPON TODAY——

LA SALLE EXTENSION UNIVERSITY

A Correspondence Institution

417 S. Dearborn St. Dept. 10493L Chicago 5, Ill.

Please send me, FREE, "Law Training for Leadership" and "Evidence."

Name.....

Address.....

City.....*Zone*....*State*.....

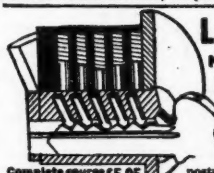
LEFAX
TECHNICAL DATA BOOKS
POCKET SIZE • LOOSE LEAF

Printed on loose leaf, 6 hole, 6¾" x 3¾" bond paper, each book contains about 140 pages of technical data, condensed, accurate, essential, for student, engineer, technical worker, business man. **$1.25** each

Architecture	Surveying Tables	Machine Design	Radio
Home Heating	Highway Eng'g.	Machinist's Data	Television & FM
Electrician's Data	General Math	Mech. of Materials	Electricity, AC
Builder's Data	Math Tables	Pwr. Trans. Mach.	Electricity, DC
Lumber Data	Physics	Thermo. Tbls. & Charts	AC Motors
Air Conditioning	Trig-Log Tables	Phys. & Thermo. —dynamic data	Conversion Tbls.
Building Constr.	Gen'l Chemistry	Metals	Steel Forms
Reinf. Concrete	Chemical Tables	Hydraulics	Welding Data
Piping Data	Analytic Chem.		Transformers, Relays & Meters
Surveying	Mech'l Drawing		

Write for FREE catalogs (2000 listings). See how helpful LEFAX can be to you. Send $1.25 book, or $6 for any five books to

LEFAX PUBLISHERS, Dept. MI-107, PHILADELPHIA 7, PA.

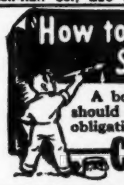


Locksmithing AND KEY MAKING

Now Made Easy! Practical up-to-date course teaches you how to pick locks, decode, make master keys, repair, install, service, etc. New self-instruction lessons for every handyman, home-owner, carpenter, mechanic, service station operator, fix-it shop, hardware dealer, gunsmith. 53 easy illustrated lessons. Full price only $5.95 postpaid; or C.O.D. plus postage. Satisfaction or refund guaranteed.

Complete course $5.95 . . . now only $4.95

Nelson-Hall Co., 210 S. Clinton St., Dept. KT-3, Chicago 6, Ill.



How to Make Money with Simple Cartoons

A book everyone who likes to draw should have. It is free; no obligation. Simply address FREE BOOK

CARTOONISTS' EXCHANGE
Dept. 3510-D, Pleasant Hill, Ohio

BUY FAMOUS BRANDS WHOLESALE!

- APPLIANCES
- WATCHES
- TYPEWRITERS
- HOUSEWARES
- SPORTING GOODS
- CAMERAS
- CLOTHING
- JEWELRY
- TOOLS
- GIFTS

DISCOUNTS UP TO 80%

All brand new, nationally advertised merchandise. Guaranteed. Huge savings

Send Postcard For Free Details

MIDWEST SALES (MM-156) Pontiac, Illinois

BUY IT WHOLESALE!

SAVE 30-80%

FOR SELF OR RESELL FOR BIG PROFITS! NAME BRAND APPLIANCES, TOOLS, WATCHES, CAMERAS, PHONOS, SEWING MACHINES, JEWELRY, HOUSEWARES, SPORTING GOODS, TYPEWRITERS, ETC.

GET OUR BIG WHOLESALE CATALOG OF OVER 2,000 PROFIT MAKING ITEMS! POSTCARD BRINGS DETAILS FREE! MAIL TODAY!

Consolidated DISTRIBUTORS CLIFTON 3, N. J.

BUILD and FLY
Bensen
HELICOPTER

Glider type 'copter—easy to build, simple to fly. Can also be mounted on floats or boat. No pilot's license required. Order 3-view drawings, specs and photo for $1. Motor powered Gyro-Copter drawings $2.

$1 $2

Ask about detailed plans and construction kits.

BENSEN AIRCRAFT CORP., Dept. MI-107
P. O. Box 2725, Raleigh, N. C.

Name.....

Address.....

INVENTORS

Learn how to protect your invention. The U. S. Patent Laws provide that any new and useful art, machine, article of manufacture, or composition of matter, or any new and useful improvement thereof, may be patented if the act of invention is involved. Therefore, every inventor with a valuable invention should take advantage of the Patent Laws and proceed for patent protection in order to safeguard his rights.

A patent gives the inventor the exclusive right to prevent others from making, using, or selling the invention claimed in the patent for a period of seventeen years.

The Patent Laws were enacted for the benefit of the inventor to give him protection for the features of his invention which are patentable. These features must be properly and concisely set forth and claimed in a formal application for patent, in order to comply with the requirements of the Patent Laws. For that reason, unless the inventor is familiar with patent matters, he should engage a competent registered patent attorney or agent to represent him. We are registered to practice before the U. S. Patent Office and are prepared to serve you in the handling of your patent matters.

A specially prepared booklet entitled "Patent Guide for the Inventor", containing detailed information with respect to patent protection and procedure, together with a "Record of Invention" form will be promptly forwarded to you without obligation upon request.

CLARENCE A. O'BRIEN & HARVEY JACOBSON

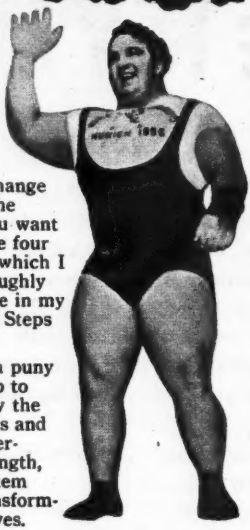
Registered Patent Attorneys

73-K DISTRICT NATIONAL BUILDING

WASHINGTON 5, D. C.

LET THE WORLD'S STRONGEST MAN

Help You Gain a Body to Brag About!



Be the envy of your friends, the admiration of particular girls. Begin AS YOU ARE—skinny, weak, undeveloped, or fat, flabby and short of breath. You can change yourself DAILY into the physical specimen you want to be by means of the four secret fundamentals which I discovered and thoroughly describe and illustrate in my wonder course "Easy Steps to Giant Strength."

I began myself as a puny youth. I was given up to die, but saved by only the prayers of my parents and moved by a deep determination to gain strength, I worked out my system which has meant transforming magic in many lives.

Send TODAY for FREE Book

OLYMPIC CHAMPION

Paul Anderson

WORLD'S STRONGEST MAN

Learn without obligation that there is a sure-fire method for developing the kind of body you would like to have. You can gain weight or lose weight without losing strength. You can build powerful responsive muscles into every inch of your physical frame. You can improve your style and performance in any sport with my tried and proved method. Don't delay—investigate!

YOU TOO CAN WIN MEDALS & TROPHIES

"I have many medals and trophies won in National, Olympic and World competitions in Russia, Germany and Australia. Let me fit you for weight lifting competition greatly growing in favor."

MAIL COUPON

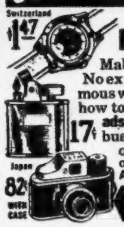
PAUL ANDERSON ML10
Toccoa, Ga.

Send me without obligation your fully illustrated book giving full details of "Easy Steps to Giant Strength." Check marks show the body I want.

☐ Muscular Development ☐ Poise
☐ More Weight ☐ Mental Control
☐ Less Weight ☐ Strength ☐ Health

*Name*_____
(Please Print)
*Address*_____
*City*_____ *Zone*____ *State*_____

BUY BELOW WHOLESALE



START YOUR OWN
HOME-IMPORT BUSINESS

Make big profits on thousands of exotic imports. No experience or investment in products needed. Famous world trader guides men and women—shows you how to pocket profits before ordering, **how to get free ads,** how to start full or spare time home mail-order business or take volume orders from stores. Export opportunities also. Full details, booklet and list of 157 imports showing amazing low foreign prices—**ALL FREE.** Air mail reaches us overnight. Write

MELLINGER CO., Dept. G26A
1717 Westwood, Los Angeles 24, Calif.

LEARN LOCKSMITHING

Learn fascinating, profitable trade from experts in spare time at home! Age or physical handicap no disadvantage. Year around, steady income. Full or part time. Practical, illustrated lessons. Make money even while learning! All materials and special tools supplied. **Free Booklet.**

LOCK INSTITUTE, Dept. M-93
150 PARK AVENUE E. RUTHERFORD, N. J.
Lic. by N. J. State Board of Ed. Approved for Vets

Find HIDDEN TREASURES

GOLD, SILVER, PRECIOUS METALS with the Famous Model 27 Metal Detector. Lightweight, ultra-sensitive, low cost. None finer. Also GEIGER COUNTERS for uranium and the VIOLITE for tungsten. INFORMATION FREE

THE *Detectron* CORP.
5528 Vineland Ave., No. Hollywood, Calif.

HYPNOTISM

Be Popular Amaze Entertain

Learn to apply Hypnotism and Autosuggestion in short time by training at home. Write to America's oldest, most famous Hypnotic School for free information—now—today. DON'T DELAY. Satisfaction or money refunded. Sent in plain wrapper.

SCHOOL OF APPLIED HYPNOLOGY
Dept. 6310, 120 Central Park South, N. Y. 19, N. Y.

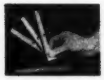
ROAD TO RICHES

You can be the next uranium millionaire! Government guarantees huge bonus! PRI instruments from $29.95. See your local dealer today! FREE CATALOG!

Write PRI, 4223FS W. Jefferson
Los Angeles 16, California
DEALERS WANTED

NEW DISPOSABLE

JOINTER BLADE



No need to use dull and knicked jointer knives. For the first time a complete new set of jointer knives for less than the price of sharpening old set. Satisfaction or money will be refunded. C.O.D. or postpaid if cash is with the order.

$1.45 per set (3) in 4" or 4¾" length
$1.85 per set (3) in 6" length

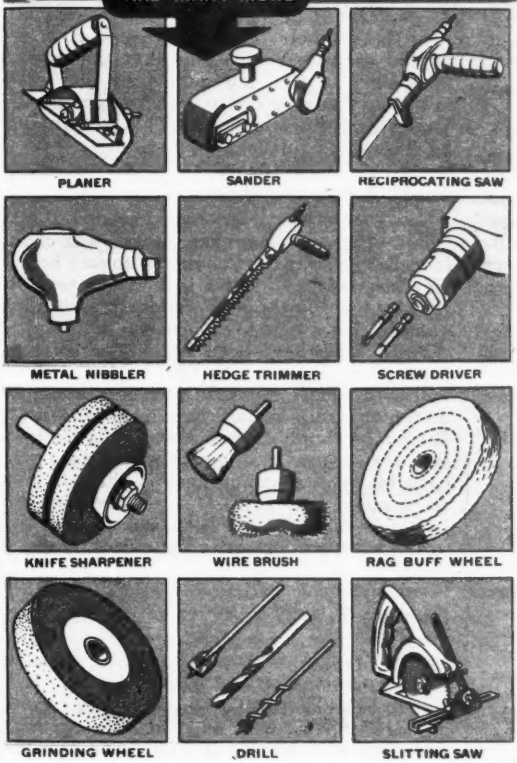
SPRUNGER BROS., Inc., Topeka, Indiana

now, in power tools, too,

if it's Remington, it's right!

powers a whole workshop of attachments!

OPERATES THESE AND MANY MORE



Here's an electric drill with power to spare! Now you can assemble a complete, low-cost home workshop around just one powerful tool—the Remington 149B drill by Mall. It's precision-built to handle most any job ...to give a lifetime of rugged service. Fits planer, sander, saw and dozens of other attachments. Does many jobs out of the workshop, too, from hedge trimming to car polishing.

*Specifications and recommended price subject to change without notice.

SEND FOR FREE, 16-PAGE CATALOG

showing every type of electric hand tool. Tells what each tool will do. Gives prices and specifications. No cost, no obligation. Send coupon today.

Mail this coupon today!

MI-10

MALL TOOL COMPANY
Division of Remington Arms Company, Inc.
Bridgeport 2, Connecticut

Please send without obligation FREE, illustrated catalog on electric tools.

NAME _____

ADDRESS _____

CITY _____ ZONE ____ STATE ____

Remington Mall®

MALL TOOL COMPANY,
Division of Remington Arms Company, Inc. Bridgeport 2, Connecticut
In Canada: Mall Tool, Ltd., 36 Queen Elizabeth Blvd., Toronto, Ont

Invention Clinic

Joseph H. Kraus

In this column each month Mr. Kraus will answer as many letters as space permits on those subjects he feels to be of widest general interest. Time does not allow him to reply to any letters except those printed here. Address your questions to the Invention Clinic, *Mechanix Illustrated*, 67 West 44 St., New York 36, N. Y.

Customary Percentage

George Baker of Harrisburg, S. D., has had a toy accepted by a promoter who offers him five per cent of all royalties received. The promoter would assume all costs of development, patent expenses, building a professional model and finding a buyer. Is this a customary percentage paid to an inventor in this field?

Let your own attorney examine the contract you will be expected to sign. As we understand it, you get five cents for each dollar the promoter earns. But your letter says nothing about a minimum. There is much more here which needs to be considered. When will the promoter begin the project? Is there a recapture clause to permit you to take over the entire project if the promoter does not live up to his agreement in the time specified?

Toys may bring two to 10 per cent via royalties; five per cent is the average. A non-investing promoter usually demands 10 to 15 per cent if he negotiates a sale. In your case the promoter offers to invest. It is up to you to be sure that his investment will take place in fact, not merely by way of a nebulous future promise which might tie up your idea yet not bind him. This deal should be negotiated further.

INVENTOR'S TIP OF THE MONTH

Every 2x2-inch slide projector we have examined makes a popping sound as the cardboard-mounted color film expands and throws the projection out of focus. You can focus for a post-pop position and wait for the picture to snap into focus but the fuzziness is annoying. What is needed is a cardboard mounting system which will keep the film in constant focal position. Such an item would have great potential. It could be sold directly through dealers.

Drill A Square Hole

Lou Abate of Lawrence, Mass., was challenged by a friend to "go drill a square hole." He designed and built a drill which will do exactly that. Is the idea original? Is it patentable? Does it have a market?

Many drills have been made (and some of them have appeared on the market) which will drill square holes. In fact, it is a simple matter to drill a square hole in paper with a flat-ended round drill. Without technical details from you it is impossible to state if you have hit upon anything new or different. We recommend that you order a patent search. Let your future action be based on your attorney's report and on your own investigations.

Bicycle Toy Motor

R. S. Manning of Hartell, Alberta, Canada, sends a photograph and prints of a toy "motor" to be attached to a bicycle. He has made a check of American and Canadian patents and finds nothing like it. Should he proceed with the patent in America or Canada?

Perhaps the best thing to do would be to try to locate a manufacturer. If he agrees to market the article you could apply for Canadian patents, if he wants them, and file simultaneously for American protection.

[*Continued on page 22*]

INVENTORS

If you believe that you have an invention, you should find out how to protect it. The first step is to have a search made of the prior pertinent U. S. patents. If a report on this search indicates that the invention appears patentable you can apply for a patent, and the specifications and claims should be prepared.

The firm of McMorrow, Berman & Davidson, with offices in Washington, D. C., is qualified to take the necessary steps for you. We can make a preliminary search on your invention, advise you whether we think it can be patented, and prepare your application for patent.

Unless you are fully familiar with the U. S. Patent Laws, we recommend that you engage the services of a Registered Patent Attorney to protect your interests. The patent laws are *your* laws. A patent gives you the right to prevent others from making, using or selling the invention claimed in your patent for a period of 17 years.

Use these patent laws for your protection. Investigate whether your invention can be patented. If you have what you believe to be an invention, we suggest that you have this firm make a search for you.

Send for a copy of our Patent Booklet entitled "How To Protect Your Invention," containing information about patent protection and patent procedure. Along with this we will also send you an "Invention Record" form, for your use in writing down and sketching details of your invention. We will mail them promptly. No obligation. They are yours for the asking.

McMORROW, BERMAN & DAVIDSON

Registered Patent Attorneys

PATENTS • COPYRIGHTS • PATENTS

139-E VICTOR BUILDING, WASHINGTON 1, D. C.

DRAFTSMEN

CASH BIG PAY CHECKS!

Train Now for more success, greater security

LEARN AT HOME IN SPARE TIME
(or at college in Chicago)

Check the want ads in any newspaper—SEE the big-pay opportunities open to you as a draftsman. What's more, you can learn this well-paid, prestige profession at home—quickly, easily! No special talent needed. Get complete, step-by-step Chicago Tech lessons in the mail, spend a few pleasant hours studying each week. In a short time you'll be a well-trained draftsman, ready to take your pick of many good jobs. Act now!

FREE INFORMATION—MAIL COUPON TODAY!

Get FREE TRIAL LESSON plus information about C.T.C. practical training. Learn what successful Chicago Tech graduates say about high pay and opportunities in drafting. No charge, or obligation.

CHICAGO TECHNICAL COLLEGE

N-281 Tech Bldg., 2000 So. Michigan Ave.
Chicago 16, Illinois

Mail me FREE lesson with facts about big opportunities in DRAFTING.

Name..... Age.....

Address .....

City..... Zone..... State.....

Inventors

Sketch and describe your invention. Sign, date and have this disclosure witnessed by two people who understand your invention. Have us make a preliminary search among U. S. patents already granted for similar types of invention. We report on the probable patentability of your invention and recommend your further course of action.

Write for our instructive booklet, "Patent Protection for Inventors" and our convenient "Evidence of Invention" disclosure form.

VICTOR J. EVANS & Co. Merlin M. Evans
REGISTERED PATENT ATTORNEY
350-L MERLIN BUILDING, WASHINGTON 6, D. C.

Invention Clinic

[*Continued from page* 20]

Right now your item is a non-working novelty. An improvement which we would recommend would be to avoid the need of slotting the mudguard. This can be done easily by setting the friction wheel against the side of the tire instead of on top of it.

Automobile Periscope

John H. Becker, Jr., of Springfield, Ill., sends five drawings for a rear view mirror based on the principle of the periscope. Does he have an original adaptation? Is it marketable? Should he try to develop this further? Who should he see for consultation?

The direction toward which the periscope faces is not a patentable claim here. Nor is there any virtue in allowing for motion by one of the mirrors. Both mirrors can be preset. There is little basis for your expectation that the combination will remain unaffected by ice or fog. Except for the fact that it will do you no good to float the mirror in oil to prevent vibrational distortion, the questions which you pose in paragraphs one through five will need to be solved.

Orthopedic Device

Mrs. Jerry Sturlangson of Everett, Wash., an arthritic for 21 years, has designed a steel and plastic brace which holds the hands in place so one can wash dishes and perform other household duties. This has made life more bearable. She doesn't have the financial resources to do anything with this idea. What do we recommend?

We suggest that you discuss the matter with your physician. He may be in a position to help you get support for a patent and its production. On the other hand, he may know of a similar device or recognize that while your

[*Continued on page* 24]

INVENTORS

Send for PATENT INFORMATION Book and INVENTOR'S RECORD without obligation

GUSTAVE MILLER
187-M1 Warner Building
Washington 4, D.C.

REGISTERED PATENT ATTORNEY
ASSOCIATE EXAMINER
U. S. PAT. OFF. 1922-1929
Patent Attorney & Advisor
U. S. NAVY DEPT. 1930-1947
PATENT LAWYER

INVENTORS

U. S. Patents protect your inventions. Our free book of "Instructions on Patent Procedure for Inventors," also "Certificate of Invention" form sent without obligation.

C. A. SNOW & CO.
REGISTERED PATENT ATTORNEYS
427 SNOW BUILDING WASHINGTON 1, D. C.

AMAZING MUSIC DISCOVERY

Has You Playing Real Music The Very First Time You Try!

Thousands Now Play Who Never Thought They Could — Requires No Teacher — No Boring Practice of Scales and Exercises . . . QUICK, EASY, INEXPENSIVE!

IF you are one of the many thousands who have always wanted to play music, yet hesitate to learn because "it takes too long," or "it costs too much"—here's wonderful news! Now, with this modern home-study method, you can actually play your favorite instrument *the very first time you try*—and you can go on to master that instrument in a much shorter time than you'd ever imagine possible!

NO "SPECIAL TALENT" REQUIRED

No previous training needed — no "special talent" required. Right from the start, this amazing music discovery will have you playing *real melodies* instead of practicing tedious scales and exercises. Earliest lessons consist of delightful songs, hymns, waltzes, etc. Clear, simple directions and large, show-how pictures teach you exactly what to do, so you can't go wrong . . . even if you don't know a single note of music now! Soon you'll be playing ALL your favorite songs and compositions *by note!*

EVEN CHILDREN LEARN QUICKLY

Over 900,000 people the world over have taken up this easy-as-A-B-C way to learn music. It's all so clearly explained, so easy to understand that even children "catch on" quickly. Yes, ANYONE can learn to play piano, violin, accordion, guitar or any other instrument. No inconvenient lesson periods—no expensive hourly tuition. You learn in spare time of your own choosing. *You become your own music teacher* . . . and progress as rapidly or as leisurely as *you* wish. And lessons are only a few cents each, including valuable sheet music you'll keep always! The whole family can learn for the price of one.

STOP CHEATING YOURSELF OF THESE JOYS

Why not let this U. S. School of Music method bring the many pleasures of music into YOUR life? Popularity! New friends. Gay parties. Good times. More self-confidence and poise. Extra money from playing or teaching. Possibly even a brilliant musical career. Best of all, the deep *personal satisfaction* of being able to create your own music—provide your own entertainment!

WHICH MUSICAL INSTRUMENT DO *YOU* WANT TO PLAY?

☐ **PIANO** "I hope others will discover how easily and cheaply you can learn with this wonderful method."—Mrs. J. C. Rogers, Roanoke Rapids, N. C.

☐ **GUITAR** "It's been fun. Hasn't cost anywhere near as much as a private teacher. Now invited to affairs, dances."—HOWARD HOPKINS, E. Syracuse, N. Y.

☐ **ACCORDION** "I got my start with a U. S. School of Music Course. How easy it is to play this 'teach yourself' way!—LAWRENCE WELK, Famous Orchestra Leader

☐ **VIOLIN** "I have played for dances, and am now studying Heifetz's 'Hora Stoccata' and a couple of concertos." — IVAN W. DAYLEY, Lisco, Nebr.

...*OR* ANY OF THESE OTHER INSTRUMENTS:

☐ Saxophone
☐ Trumpet, Cornet
☐ Pipe, Hammond, Reed Organ
☐ Tenor Banjo
☐ Ukulele
☐ Clarinet
☐ Trombone
☐ Flute
☐ Steel Guitar
☐ Piccolo

900,000 STUDENTS 59 beautiful years

SEND FOR FREE BOOK

Let us SHOW you why our way to learn music is so EASY—and so much FUN! See for yourself why our method has been so successful for 59 years. Clip and mail coupon for our valuable 36-page FREE BOOK. No obligation; no salesman will call on you. It can mean *so very much* to you for the rest of your entire life—if you will mail the coupon at right TODAY! U. S. School of Music, Studio A2210, Port Washington, N. Y. (Special Reduced Prices on Instruments.)

U. S. SCHOOL OF MUSIC
Studio A2210, Port Washington, N. Y.

I am interested in learning to play, particularly the instrument checked below. Please send me your free illustrated booklet, "How to Learn Music at Home." NO SALESMAN IS TO CALL UPON ME.

☐ Piano
☐ Guitar
☐ Steel Guitar
☐ Violin
☐ Piano Accordion
☐ Saxophone
☐ Trumpet, Cornet
☐ Pipe, Hammond, Reed Organ
☐ Tenor Banjo
☐ Ukulele
☐ Clarinet
☐ Trombone
☐ Flute
☐ Piccolo
☐ Modern Elementary Harmony
☐ Mandolin
☐ Practical Finger Control

Do you have the instrument? .....

Mr. / Mrs. / Miss .....
(Please Print Carefully)

Address .....

City ..... State .....
(Insert Zone Number, If Any)

☐ If under 18, check here for Booklet A

SAVE ½ ON ACCORDIONS • SAVE ½ ON ACCORDIONS

BUY DIRECT and SAVE UP TO ½ on ITALIAN ACCORDIONS EASY TERMS

AMAZING NO RISK OFFER... Now you can afford a world famous Accordion of finest tone and breathtaking beauty! Low wholesale prices save you half and more.

5 DAYS FREE TRIAL

ACT NOW! FREE—
- Music Stand
- Home Study Course
- Deluxe Case
- Lifetime Guarantee

COLOR CATALOG FREE Mail Coupon

MONEY BACK GUARANTEE

Buy direct from world's largest dealer. Save 50% or more. 30 newest models to choose from. Extra bonus gifts if you buy now. Satisfaction guaranteed or money back. Trade-ins accepted. Low down payment; pay little as $10.00 a month. Try before you buy on FIVE DAY TRIAL. Rush coupon now for FREE color catalog and wholesale price list. Write TODAY. Accordion Manufacturers and Wholesalers Outlet, Dept. MX-107 2003 W. Chicago Ave., Chicago 22, Ill.

Accordion Manufacturers & Wholesalers Outlet
2003 W. Chicago Ave., Dept. MX-107, Chicago 22, Ill.
Send FREE Color Catalog and price list.
NAME
ADDRESS
CITY STATE

INVENTORS

PROTECT YOUR INVENTION BY A U. S. PATENT. SEND FOR FREE "INVENTION RECORD" FORM AND "PATENT INFORMATION EVERY INVENTOR SHOULD HAVE"

CARL MILLER
REGISTERED PATENT ATTORNEY
WOOLWORTH BLDG., 36th FLOOR, 1078
NEW YORK CITY

Invention Clinic

[*Continued from page 22*]

appliance may aid you, it would not help the majority of patients with a condition similar to yours. If he gives you no positive recommendations we suggest that you query your County Medical Society for information about other contacts. We will furnish names and addresses if you cannot obtain them locally.

Soap Case

Earley S. Carpenter of Fulton, N. Y., sends photographs, patent drawings and a description of a non-stick soap holder designed especially for travelers. A vacuum cup holds the bottom section against any smooth surface. He feels that the soap case will be useful to anyone. Will we comment?

People who do a lot of traveling, especially by plane, have long since discarded most of the items which manufacturers produce for this group. A good potential might be a soap manufacturer who is about to launch a new brand. He might use the case as an inducement to buy or as a premium.

Fish Lure

J. J. Race of Portland, Ore., sends two samples of a new fish lure in which the hook occupies an unusual position. He would like to apply for a patent personally, instead of going to any attorney. How would he go about it? Do we think that the item is patentable?

Only a search will reveal if you have anything patentable here. We doubt that the position of the hook is a substantial claim. We have seen hooks in the same position as your samples, although the line arrangement was different. Complete instructions on how to obtain a patent may be had by writing to the U. S. Patent Office, Washington 25, D. C., But unless you know the ropes we strongly recommend that you pay a patent attorney. •

INVENTORS

I shall be pleased to furnish you, upon request, with information relative to patent procedure—without any obligation on your part.

PATRICK D. BEAVERS
Registered Patent Attorney
923 Columbian Building, Washington 1, D. C.

INVENTORS NEEDED AT ONCE

If you have an invention you wish to sell outright or license on royalty, write us at once. We are seeking inventions of household items, games, toys, sports items, tools, and mechanical and technical devices. Patented or unpatented. For further information and free brochure outlining manufacturers' requirements, royalty rates, send name (no drawings, please) on letter or postcard at once.
KESSLER CORPORATION, Dept. 610-D, Fremont, Ohio

SEE FOR YOURSELF

How to Fix Any Part of Any Car!

QUICKLY, EASILY and RIGHT on the very first try

THIS GIANT PICTURE BOOK SHOWS YOU STEP-BY-STEP HOW TO SERVICE OR REPAIR EVERY CAR BUILT FROM 1949 THRU 1957

Whether You're a Beginner or an Expert Mechanic—This Manual Can Help You "Breeze Through" the Toughest Auto Repair Job

2,500,000 COPIES SOLD!

DON'T waste time, money, energy by trying to *guess* how to fix a car! Do what the experts do. No matter what make or model car—whether it's a simple carburetor adjustment or a complete overhaul—simply look up the job in the index of MOTOR'S New AUTO REPAIR MANUAL. Turn to page covering job. Follow the clear, illustrated, step-by-step instructions. See for yourself how easy it is!

No guesswork! MOTOR'S Manual takes nothing for granted. Tells you where to start. What tools to use. Then it leads you easily and quickly through the entire operation!

Over 2,900 Pictures! So Complete, So Simple, You CAN'T Go Wrong!

BRAND-NEW EDITION covers everything you need to know to repair 737 chassis models. Over ONE THOUSAND giant pages, 2,900 "This-Is-How" pictures, 291 "Quick-Check" charts, 23,436 essential specifications. Over 225,000 service and repair facts. Instructions and pictures are so crystal-clear you just can't go wrong!

Meat of Over 160 Official Shop Manuals

Engineers from every automobile plant in America worked out these time-saving procedures for their own motor car line. Now the editors of MOTOR have gathered together this wealth of "Know-How" from over 160 Official Shop Manuals, "boiled it down" into crystal-clear terms in one handy indexed book!

SEND NO MONEY

Try Book for a Week FREE

Just mail coupon. (Attach it to postcard, if you wish.) Test book in your own garage or shop. It's GUARANTEED to pay for itself in 7 days. If it doesn't, return it, and owe nothing. Rush coupon for your FREE-TRIAL copy. MOTOR Book Dept., Desk 310, 250 W. 55th St., New York 19, N. Y.

Amazed Self and Friends — "I amazed myself and my friends, too. Now do jobs that stumped me before."
—Michael Ballesky, Newark, N. J.

So Complete and Easy to Understand — "So complete, easy to understand — have done jobs with Manual I would not have attempted without it."
—C. L. Vanerstrom, Mich.

Same FREE 7-DAY Offer on MOTOR'S New TRUCK REPAIR MANUAL

Covers EVERY job on EVERY popular make gasoline truck made from 1949 thru 1957 —as well as GM and Cummins Diesels. For FREE TRIAL, check proper box in coupon.

MAIL COUPON FOR FREE 7-DAY TRIAL OF MOTOR'S AUTO REPAIR MANUAL

No obligation. No risk. If not delighted, return book and owe nothing.

MAIL COUPON NOW FOR 7-DAY FREE TRIAL
(Attach to Postcard if More Convenient)

MOTOR BOOK DEPT.
Desk 310, 250 W. 55th St., New York 19, N. Y.

Rush to me at once (check box opposite book you want):

☐ **MOTOR'S New AUTO REPAIR MANUAL.** If O.K., I will remit $2 in 7 days, $2 monthly for 2 months and a final payment of 95c (plus 35c delivery charges) one month after that. Otherwise I will return the book postpaid in 7 days. (*Foreign price, remit $9 cash with order.*)

☐ **MOTOR'S New TRUCK REPAIR MANUAL.** If O.K., I will remit $2 in 7 days, and $2 monthly for 3 months, plus 35c delivery charges with final payment. Otherwise I will return book postpaid in 7 days. (*Foreign price, remit $10 cash with order.*)

Print Name.....Age.....

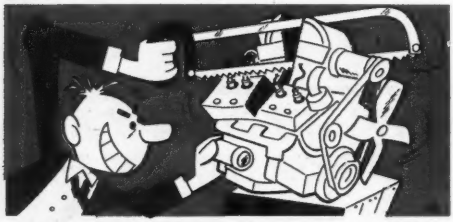
Address.....

City.....State.....

☐ Check box and save 35c shipping charge by enclosing WITH coupon in envelope entire payment of $6.95 for Auto Manual (or $8 for Truck Manual.) Same 7-day return-refund privilege.

Address mail to: MECHANIX ILLUSTRATED, Letters Editor, 67 West 44th Street, New York 36, N. Y.

● *V4*



In the June issue of MI I saw an article entitled Here Comes The Hurricane. It states in this article that "Robbins claims to have only V4 in existence."

According to my knowledge, an Italian car, Lancia, has a V4 in production. American Motors has an experimental V4. Mr. Robbins may have the only V4 of its type but he certainly doesn't have the only V4.

Winnie Alme
Roswell, N. M.

Quite right, Winnie. But you must admit that Mr. Robbins' method of getting a V4 is quite unique—sawing a V8 in half!

● *Eye Wonder*

While reading It's New! (July '57 MI) I noticed the picture of the model looking through the seven-eye producing prismatic lens with the caption under it reading "Seven-eyed effect is result of prismatic lens used by NBC-TV to create eerie illusion. . ." Eerie is right! Would you please explain to me how six of the eyes are one color and the one in the upper left-hand corner is a different color?

Dick Roberts
Rochester, N. Y.

That's a Technicolor eye, Dick.

● *Wired For Sound*

After reading Electronic Mati Haris (Aug. '57 MI) what chance do we poor males have? What do we do if we suspect our girl is wired for sound and recording our conversation?

James Flinder
Harrisburg, Pa.

There's only one way to find out: X-rays.

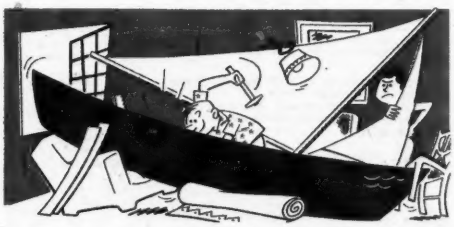
● *Coward*

Enjoyed very much your story Could You Be A Hero? (Aug. '57 MI) but was dismayed to find myself a miserable coward after I took the Courage Quotient test. Did any of your editors take this test?

Martin Howard
Miami, Fla.

Yes, the whole yellow-bellied bunch.

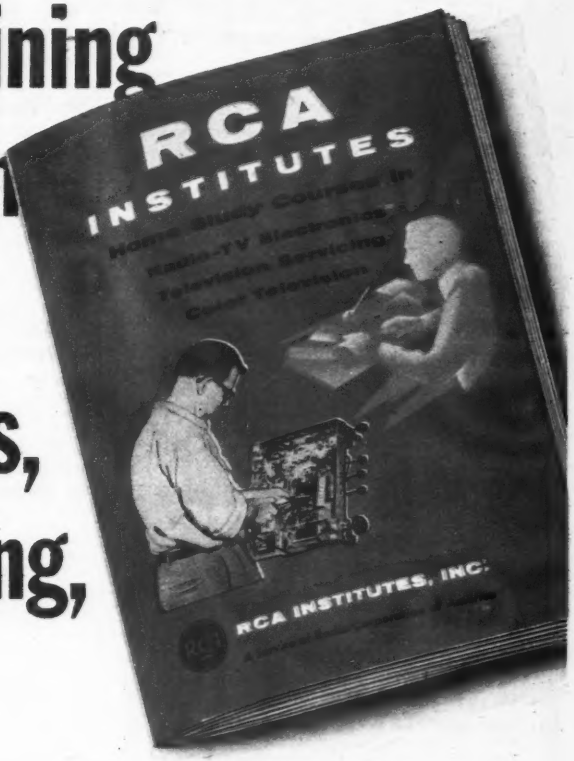
● *Boat Problem*



I have a problem and would like to request your opinion regarding a solution. There is no possible model of a boat that you cannot readily find a kit for. The question is, where are we going to find a place to assemble it? The larger and more spacious models can no longer be built in a garage. Considering that assembly must begin during the winter and indoors, adequate space is necessary because

[*Continued on page* 28]

RCA offers you the finest training at home in Radio–TV electronics, TV servicing, Color TV



SEND FOR THIS FREE BOOK NOW!

Pay-as-you-learn. You need pay for only one study group at a time. Practical work with very first lesson. All text material and equipment is yours to keep. Courses for the beginner and advanced student.

RCA Institutes, Inc., Home Study Dept. MI-107
350 West Fourth Street, New York 14, N. Y.
Without obligation, send me FREE 52 page CATALOG on Home Study Courses in Radio, Television and Color TV. No Salesman will call.

Name.....
Please Print

Address.....

City..... Zone.... State.....

KOREAN VETS! Enter discharge date_____

To save time, paste coupon on postcard

RCA INSTITUTES, INC.
A SERVICE OF RADIO CORPORATION of AMERICA
350 WEST FOURTH STREET, NEW YORK 14, N.Y.
In Canada—RCA Victor Company, Ltd., 5001 Cote de Liesse Rd., Montreal 9, Que.

Check the Kind of Body YOU Want

☐ Slimmer Waist, Hips
☐ Broader Chest, Shoulders
☐ More Weight, Solid
☐ More Powerful Arms
☐ More Powerful Legs
☐ More Energy, More Restful Sleep

. . . and I'll Show You How EASILY You Can Have It!

JUST tell me, in coupon below, the kind of body you want—and I'll give it to you SO FAST your friends will be amazed! *"Dynamic Tension,"* my easy, 15-minutes-a-day method, will make your chest and shoulders bulge . . . arms and legs surge with power . . . your whole body feel "alive!"

FREE ILLUSTRATED 32-PAGE BOOK

32 pages on how *"Dynamic Tension"* changed me from a 97-pound weakling into "World's Most Perfectly Developed Man"—and how it can change YOU too. Mail coupon NOW! Charles Atlas, Dept. 6K, 115 E. 23rd St., N. Y. C. 10

CHARLES ATLAS, Dept. 6K,
115 East 23rd St., New York 10, N. Y.

Dear Charles Atlas—Here's the Kind of Body I Want:
(Check as many as you like)

☐ Slimmer Waist, Hips ☐ More Powerful Arms
☐ Broader Chest, Shoulders ☐ More Powerful Legs
☐ More Weight, Solid ☐ Better Energy

Send me, absolutely FREE, a copy of your famous book showing how *"Dynamic Tension"* can make me a new man. 32 pages, crammed with photographs, answers to vital questions, and valuable advice. No obligation.

Name..... Age.....
(Please print or write plainly)
Address .....
City..... State.....

TRAINED MEN NEEDED!

IN INDUSTRY—ARMED FORCES
BIG PAY!—GOOD FUTURE!

☐ DIESEL ☐ ELECTRONICS
☐ AUTO ☐ AUTOMATION

NEVER BEFORE has the opportunity been so good for the properly trained mechanic and technician to step into BIG PAY POSITIONS with rapid advancement and future security virtually assured.

YOUR SUCCESS depends on the quality of training you receive . . . and the reputation of the school you attend.

YOUR GUARANTEE we are giving the best in mechanical and technical training is proved by the fact . . . High pay jobs in Industry, and ratings in the Armed Forces now waiting for our graduates.

RESIDENT SHOP TRAINING is easier and costs less than you may think! We provide you with housing and part-time jobs while in school, plus free nation-wide placement service for graduates.

Check subject above in which you are interested and mail for

FREE BOOKLET

Your Future in ELECTRONICS AND AUTOMATION

BAILEY Technical Schools
Veteran Approved
1652 S. Grand, St. Louis 4, Mo.

Your Future in DIESEL and AUTO MECHANICS

Name_____ Age_____
Street_____
Town_____ Zone____ State_____

Dear Editor

[*Continued from page* 26]

the boat must be removed without damage to it.

Charles Hamilton, Jr.
Pittsburgh, Pa.

Can any MI readers offer some helpful advice to Mr. Hamilton?

● *Nostalgia*

Do old editions never die? Just received an answer to my clock problem (Dear Editor, Dec. '51 MI) which is about the 5,000th answer I have received. Was not my clock problem the original MI Mystery of the month?

Dr. H. G. Warren
Paducah, Ky.

You're right, sir. It was the original MI Mystery and one of the most difficult.

● *August Mystery Solved*

Mystery: A uniform eight-foot-long rod weighs 20 pounds and has weights of 15 and 25 pounds on its ends. At what point should one lift the rod so that it will balance?

Solution: The point at which the rod should be lifted in order to balance it is 4⅔ feet from the 15-pound weight and 3⅓ feet from the 25-pound weight.

John Neely
Youngstown, Ohio

● *October MI Mystery*

The following mystery is taken from the book Mathematical Puzzles For Beginners & Enthusiasts by Geoffrey Mott-Smith, copyright 1954 by Dover Publications, Inc., New York, N. Y. Here it is:

If the natives of the Weejee Islands rate two spears as worth three fishhooks and a knife, and will give 25 coconuts for three spears, two knives and a fishhook together, how many coconuts will they give for each article separately?

● *For The Birds?*

About that louvered birdcage which was suggested (April '57 MI) in Inventions Wanted! The bird's owner might like it but how about the birds? What do they think of it?

Dick Watts
Audubon, Iowa

Cheep!

[*Continued on page* 31]

Get into . . .

PLASTIC LAMINATING AT HOME!

Sensational New "ONE MAN BUSINESS" . . pays $10 to $20 profit for each dollar of cost.

Make $20 to $30 a day by our MAGIC MAIL PLAN . . . get orders and cash from your mailman!

Here's the newest and most fascinating of all home-operated businesses. For the first time, a simplified machine brings the fabulous profits of Plastic Sealing and Plastic Laminating within the reach of the small operator. Can be operated in a corner of the kitchen, basement, or garage. And any man or woman, regardless of age, education, or experience—can learn this interesting work *in a few minutes of reading*—can turn out professional jobs *after one hour's practice.*

TWO EXCITING FIELDS FOR BIG PROFITS!

No house-to-house canvassing. No face-to-face selling. We not only supply the equipment you need for the work, but also show you exactly how to cash in big daily profits from two big demand fields.

A FORTUNE IN PLASTIC SEALING

Millions of people want to protect valuable cards, photographs, documents and papers against wear, soil, and damage. By our MAGIC MAIL Plan you get this business through the mails. Open envelopes and take out money and orders. Details of this plan will amaze you. It will be sent free. Just mail coupon.

ENORMOUS PROFITS IN LAMINATING

A creative, artistic business. Gift shops sell your entire output. Just a few of thousands of giftwares illustrated on this page. Beautiful colors. Endless designs. Exclusive "one of a kind" appeal brings sales at ten to twenty times the cost of materials. Beautiful illustrations and instructions for making these artistic novelties sent free.

NO MONEY—Just Send Name!

The opportunities in Plastic Laminating are so big that space here does not permit even skimming the surface. To get any idea at all of the size of these markets and your place in this sensational business you must read the details. See for yourself how easy it is to do the work—how you can put plastic sheets into your machine and take out a fortune—how money and orders come to you in the mail—how gift shops clamor to get more and more of your creations—how you can start with one machine and build up a big production plant with others doing the work—how you can get money and business from every State in the Union—how you can achieve independence without study or experience.

FREE

RUSH COUPON

Never before has such an opportunity been offered the small, home-operator—an opportunity to gain complete personal independence in a big money business of your own. Don't lose a minute. Get the facts at once. All information, fully illustrated with pictures, is free. Send the coupon—or send your name and address on a postcard. There is no charge now, or at any other time. Send for the information on this exciting opportunity today.

$5-$10-and $20 BILLS COME TO YOU IN THE MAIL

By our MAGIC MAIL Plan you sit at home, send out mail, and get back money and orders. Additional profits in supplying lifetime protection for SNAPSHOTS—IDENTIFICATION CARDS—DISCHARGE PAPERS—DRIVERS' LICENSES—SOCIAL SECURITY CARDS—VOTERS REG. CARDS—MENUS—BIRTH CERTIFICATES—CREDIT CARDS—BIRTH AND WEDDING ANNOUNCEMENTS—PASSES—DOCUMENTS.

Lifetime protection. See how laminating prevents soiling, wear, and moisture damage with flexible, plastic covers.

WARNER ELECTRIC CO.
1512 Jarvis, Dept. L-4-L, Chicago 26, Illinois

Thousands of Beautiful ART CREATIONS

Made by Laminating as explained in our Free information. Send coupon for list and pictures of COSTUME JEWELRY—JEWELS—CIGARETTE BOXES—CUFFLINKS—NOVELTY BUTTONS—TRAYS—CANDLESTICKS—COASTERS—CLOCK CASES—LAMP BASES—PICTURE FRAMES—BOOK ENDS—CHARMS—ADVERTISING SIGNS—NAME PLATES—BELT BUCKLES—CHECKERS—PAPER KNIVES—CHESSMEN—BOOKMARKS—TIE RACKS—KEEPSAKES OF ALL KINDS.

WARNER ELECTRIC CO., Dept. L-4-L
1512 Jarvis Avenue, Chicago 26, Illinois

Please mail, postage prepaid, complete information with illustrations showing the things I can make and the money possibilities in Plastic Laminating. All this is free. No Salesman is to call. Also, tell me how I get orders and money from my Postman by the MAGIC MAIL Plan.

NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

not everyone does as well, but E. O. Lockin, who started a business of his own, reports...

for 12 months I've averaged $800 PER MONTH INCOME – most of it clear profit for me!

● Many men have discovered how to be independent, to be free of bosses and layoffs. L. A. Eagles grossed more than $200 his first week. Others report gross up to $12,000 per year. How much you make depends largely on *you*. You need no special skill, no large investment.

No shop necessary. Our ELECTRIC RUG WASHER cleans rugs, carpets right on floor . . . helps to show their natural color, beauty. So efficient and safe, used by largest hotels and railroads.

You take no risk. Machines fully guaranteed. Write for full information including how to make big profits in YOUR OWN business.

MAIL COUPON TODAY FOR FREE BOOK

VON SCHRADER MFG. CO., N12"R"PL, Racine, Wis.

Without obligation, send your **FREE** booklet containing information about your ELECTRIC RUG WASHER and how I can start *my own* permanent, profitable business.

Name_____

Address_____

City_____ Zone____ State_____

HANDY UTILITY BINS with SEE-THRU PLASTIC DRAWERS

Utility Bins—Plastic Drawers so you can see where everything is. Store screws, nails, washers, bolts, files, etc. Good for home, shop or office. Labels for easy indexing. Draw dividers triple the items you can hold. 16 Drawer Bin 7"x13"x-6½" $6.95, 24 Drawer Bin 9½"x-13½"x6½" $9.95, Drawer size 5¾"x2¾"x2¾". Add 50c toward shipping charge.

5X ILLUMINATED MAGNIFIER

inspectors-collectors-doctors, etc.

Powerful Magnifier carries its own illumination. Hundreds of uses. Inspect tools, machine parts, examine fibres, Lab study, Photo Retouching. Sturdy Chromed Steel and bakelite construction. Uses standard flashlight batteries.

$3.95 Ppd.

10X Power $4.95 postpaid Less Batteries.

CHROME SPEED STEEL DRILL BITS

29 Pc. Set

Finest Hardened and tempered Chrome Vanadium Steel. Bits have turned down shanks to fit ¼" drill.

$8.50 plus 35c shpg. chge.

Same as above with normal shanks to ½" **$6.50 plus 35c shpg. chge.**

JOHN SURREY LTD.

11 West 32nd Street, Dept. MX1, New York 1, New York

SELL TO UNCLE SAM!

That's how I made $20,000 a year—selling junk jewelry to the U. S. Government. Send me your name and I'll show you how I did it.

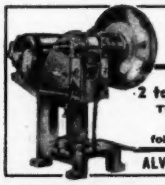
LEARN AT HOME IN ONE EVENING

This is the most fantastic way of making money you ever heard of. That's because you do all your "selling" BY MAIL *to one customer*—the U. S. Government! Uncle Sam will buy all the old junk jewelry you send in at $35.00 AN OUNCE for the gold it contains. Just follow my Plan and you can pick up gold on any street in your town. I show you where to find it, what to pay, how to test and how to mail to Uncle Sam for cash. I'll teach you the secrets by which I made $20,000 a year. No charge for facts. No salesman will call. Send no money—just your name, address on postcard. **Leslie Patton, 335 W. Madison St., Dept. P-1710, Chicago 6, Ill.**

BECOME AN EXPERT IN TRAFFIC *and* TRANSPORTATION

Traffic men earn $4,000 to $10,000 and up. Thousands of firms need experts on rates, tariffs, regulations. We train you thoroly in spare time at home for executive traffic jobs. Personal training under traffic authorities. *Write for free book* "Traffic and Transportation."

LASALLE Extension University, 417 So. Dearborn St.
A Correspondence Institution Dept. 1049ST Chicago 5, Ill.



Heavy Duty Bench Type ALLEN PUNCH PRESSES

Model B-2
2 ton - $97.50
Tilting model
$127.50
fob—less motor

164 Different Model Combinations
1 to 5 ton capacities
Moderate in price
Fully guaranteed

See your supply dealer or write for Free catalog giving complete information and prices on our Bench Type Punch Presses.

ALVA ALLEN INDUSTRIES, Dept. MI, Clinton, Mo.

BIG NEW WHOLESALE CATALOG FREE!

WRITE TODAY FOR FREE CATALOG USING POSTCARD

NOW! Save Up to 50% on Nationally Advertised Gifts

Use this big, new FREE CATALOG to buy all kinds of gifts and merchandise for yourself, family, friends, neighbors. Terrific saving on big-name items. Also, make money spare time taking orders from others!

EVERGREEN STUDIOS
Dept. 58, Box 846 Chicago 42, Ill.

MAKE BIG MONEY AT HOME! INVISIBLE MENDING

Pays up to $10 in an Hour!

Make moth holes, cigarette burns, tears, rips, *disappear* from all fabrics. Little-known craft pays extra spare-time profits at home. Write today for exciting details FREE!

FABRICON, 6238 Broadway
DEPT. 4411 - CHICAGO 40, ILLINOIS

Now Many Wear FALSE TEETH With Little Worry

Eat, talk, laugh or sneeze without fear of insecure false teeth dropping, slipping or wobbling. FASTEETH holds plates firmer and more comfortably. This pleasant powder has no gummy, gooey, pasty taste or feeling. Doesn't cause nausea. It's alkaline (non-acid). Checks "plate odor" (denture breath). Get FASTEETH at any drug counter

DON'T DO-ITS

Dear Editor

[*Continued from page* 28]

• *Dog Lover*

As I was reading the June issue of your magazine I came to your very humorous quiz Are You A Science Genius? I found, for the most part, your answers to be entirely true. In question three, though, I found that you blundering fools actually have the nerve to say that pigs are smarter than dogs. I am a dog owner and lover and I dare you or anybody else to make such a statement to my face. I hereby demand that you take back what you said about those beautiful and intelligent dogs in your next issue or I will personally come down there to see that justice is carried out.

Nancy Perry
Culver City, Calif.

Why, Nancy, some of our best friends are dogs.

When answering advertisements please mention
MECHANIX ILLUSTRATED

MAKE MORE MONEY
get into
TELERAMA • ALL 8 BRANCHES OF
TELEVISION ELECTRONICS • RADIO •
IN ONE DYNAMIC, MODERN SHOP METHOD
HOME TRAINING COURSE

You get and keep ALL this modern, newest, practical equipment!

* Registration applied for

YOU COVER ALL 8 BRANCHES IN ONE MASTER COURSE, ONE LOW TUITION

1. Television-including color TV
2. Radio — FM & AM
3. Industrial electronics
4. Sound recording and Hi-Fidelity
5. Preparation for FCC License
6. Automation
7. Radar & Sonar
8. Communications

- Parts to build a modern TV set, including large screen Picture Tube.
- Parts to build a powerful Superhet Receiver, standard broadcast and short wave.
- Parts to conduct many experiments and build — • Continuity Checker • RF Oscillator • TV Circuits • Audio Oscillator • TRF Receiver • Signal Generator
- Professional Multitester
- A MUST for all technicians

FOR MEN WHO WANT TO EARN MORE MONEY!
Another great advance in Home Study Training. Let National Schools, of Los Angeles, a practical Technical Resident Trade School for over 50 years, train you at home by Shop-Method, for today's unlimited opportunities in ALL 8 BRANCHES of the Television, Electronics, Radio industry.

YOU DO MANY PRACTICAL JOBS — including servicing, circuit analysis. Build a modern TV set from ground up, with equipment kits we send you, including a new large-screen picture tube and professional Multitester, at no additional charge. You receive an experiment lesson with each kit. EARN AS YOU LEARN. Graduate Employment Service.

SEND FOR FREE FACT-BOOK AND SAMPLE LESSON

RESIDENT TRAINING AT LOS ANGELES
If you wish to take Resident Training at Los Angeles in our big, modern Shops, Labs, and Studios check special box in coupon for full information.

NATIONAL SCHOOLS
4000 S. FIGUEROA ST., LOS ANGELES 37, CALIF.

NATIONAL SCHOOLS
TECHNICAL TRADE TRAINING SINCE 1905
Los Angeles, California

GET FAST SERVICE—MAIL NOW TO
NATIONAL SCHOOLS, DEPT. RA-107
4000 S. FIGUEROA ST.
LOS ANGELES 37, CALIF.
Rush free TV-Radio "Opportunity" Book and sample lesson. No salesman will call.

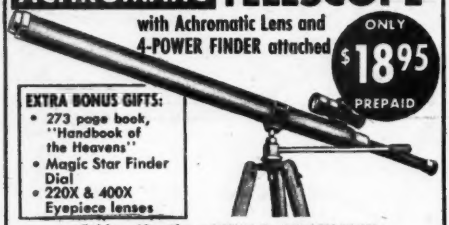
NAME_____ BIRTHDAY_____ 19__
ADDRESS_____
CITY_____ ZONE_____ STATE_____
☐ Check if interested ONLY in Resident School Training at Los Angeles
VETERANS: Give date of discharge_____

NEVER AT THIS LOW PRICE!

GENUINE 135-POWER ACHROMATIC TELESCOPE

with Achromatic Lens and 4-POWER FINDER attached

ONLY $18.95 PREPAID



EXTRA BONUS GIFTS:
- 273 page book, "Handbook of the Heavens"
- Magic Star Finder Dial
- 220X & 400X Eyepiece lenses

5 Magnifications 18X-35X-65X-85X-135X
Brings the Moon, Planets, Stars, People 135 times Closer, Clearer, Sharper

Never before has an ACHROMATIC 135X telescope with range finder and tripod sold for anywhere near this amazing low price! Now you can not only explore the heavens and bring the moon, planets, stars 135 times closer, but you can observe all distant objects, people, ships too, because all pictures are erect, not upside down as in all astronomical telescopes, the kind of needle-sharp color-free viewing only a genuine achromatic lens can bring you. Ready for immediate use. 5 precision lenses bring you viewing at 18X-35X-65X-85X-135X. Tubes extend to 43" made of bakelite, finished in camera bellows black, trimmed with gleaming brass. 4 power finder scope (30MM Lens) mounted on main tube is feature usually found on more expensive telescopes—brings difficult objects on target before observing with main scope. For extra stability 5 ft. hardwood folding tripod is equipped with heavy cast iron head fitted with Criterion's famous 360 degree all aluminum mount that locks instantly in any position. Obtainable only from Criterion Co. shipped prepaid. 4 famous gifts—273 page book "Handbook of the Heavens," Magic star finder dial that aids in locating stars ANYWHERE at ANYTIME of the year. 220X & 400X eyepiece lenses included free for experiments. You must be completely satisfied with this super offer or your money back in full. Shipped Complete, nothing else to buy, at amazingly low price of $18.95. Without tripod $14.95.

Send Cash, Check or Money Order today

Dept. MLA-14, Criterion Co., 331 Church St., Hartford, Conn.

LEARN PLASTICS

COMPLETE LOW COST SHOP METHOD HOME TRAINING NOW AVAILABLE

Get in on Big Money opportunities in Plastic molding, casting, forming, carving, etc. Earn as you learn with Interstate's professionally prepared course. All plastic materials furnished.

WRITE FOR FREE BOOKLET

INTERSTATE TRAINING SERVICE
DEPT. C-4, PORTLAND 13, OREGON

PAINTING IS EASY!

with the famous **BURGESS** *electric* **SPRAYER**

Just plug in and Spray:
- paint • varnish • enamel
- shellac • mothproofers
- garden sprays • water
- insecticides

PAINT 3 to 7 TIMES FASTER!

For the fastest, smoothest painting or spraying job you ever saw, try the Burgess Sprayer. Completely self-contained . . . just plug into regular household outlet, pull the trigger, and paint furniture, floors, walls, screens, cabinets, fences. Fine for mothproofing and garden spraying, too. Sapphire nozzle, handy spray adjuster, new convenient hanging hook, 25 oz. graduated jar. Easier to clean than a brush.

only $12.95 AT YOUR FAVORITE DEALER

If not available locally send $12.95 for postpaid delivery. Money-back guarantee.

SEND FOR FREE BOOKLET "HOW TO PAINT THE EASY WAY"

BURGESS VIBROCRAFTERS, INC.
DEPT. A-87 • GRAYSLAKE, ILLINOIS

SAVE $200.00 and more— IMMEDIATE PROFITS

This FREE Lesson Proves You Can Learn TV Repair in one short week!

Why pay up to $250 for training — study months or years? My new SIMPLIFIED TV REPAIR METHOD lets you make $10 to $20 the first day! No confusing electronic "double talk"—but a wealth of practical *"know how."* 1000's have already proved that if you can replace a lightbulb, you can make good money *immediately*, repairing all makes of sets. It's amazing—and, it's true! For *proof* send for FREE Sample Lesson and Business Plan *now!* No salesman will call. **ELECTRONIC ENGINEERING,** Dept. A-15-A, 1038 So. LaBrea, L. A., California

Learn **WATCH REPAIR** now!

Train for this money-making trade at home the low cost Sweazey Way

Learn to repair Swiss and American watches. A profitable trade or fascinating hobby. Unique Sweazey System shows you how step by step. No previous experience needed. Complete, practical, shop method, home training by professional trade school. Low terms. Write today. No obligation.

FREE booklet and sample lesson

CHICAGO SCHOOL OF WATCHMAKING
2330 Milwaukee, Dept. 6107, Chicago 47, Ill.

HYDRAULIC JACK REPAIRS

Earn While You Learn at Home

Millions of jacks in gas & auto-service stations, truckers, body-shops, riggers, factories, farms need servicing. We show you HOW—easy step by step directions—what tools to use. EARN UP TO $5 an hour, in spare time, in your own basement or garage. Start your own business NOW. Write for folder No. MI-10 & free bonus offer.

Institute of Hydraulic Jack Repair
P.O. Box 50, Bloomfield, N. J.

FREE GERMAN STEEL HUNTING KNIFE

4-INCH BLADE

We give you handiest hunting and fishing knife you've ever had! Has 4-INCH LONG highly tempered steel blade—VERY SHARP! Attractive handle. We send knife FREE to acquaint you with our below-wholesale bargains. Please send 25c for handling. NO LIMIT—but send 25c handling for each knife. Order TODAY!

HUNTING KNIFE, Dept. K-264, Box 881, St. Louis, Mo.

GUARANTEED HE-MAN BODY!

Says TV Famous "DAN THE MUSCLEMAN"
Build yourself a HE-MAN body with "swoon appeal" in only 6 weeks or your money back with

DAN LURIE HE-MAN BARBELLS

GUARANTEED results! Lowest Direct Prices!
4 "Body Mold" courses incl'd.
50 lb. set___$ 6.95 100 lb. set___$14.95
150 lb. set___$21.95 200 lb. set___$27.95
.14c each add'l lb. Prices F.O.B. Plant. 50% deposit required on all orders.

Send for FREE catalog

DAN LURIE BARBELL CO.
52X-10 Bristol St., Dept. 750-K, Brooklyn 12, N. Y.

WORLD'S LOWEST PRICED ADDING MACHINE

Vest Pocket Size FREE TRIAL

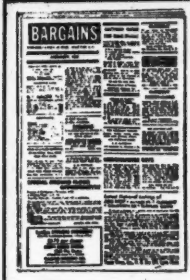
only $2.95 TOTAL COST SEND NO MONEY

COUNTS UP TO 999,999,999
IDEAL FOR BUSINESS AND PERSONAL USE—GUARANTEED ACCURATE.
Not a toy. Operates with only a finger flick. Adds, subtracts, multiplies, divides. Counts up to one billion. Pays for itself over and over. Ideal Gift—for Business, Income Tax and School use. MONEY BACK GUARANTEE. Send name and address. Pay postman only $2.95 plus postage. Beautiful rich-looking Leatherette Case included at no extra cost. Money back in 10 days if not delighted. AGENTS WANTED.

CALCULATOR MACHINE CO., (Mfgrs.)
Box 126 Dept. XV-57 Huntingdon Valley, Pa.

BARGAINS

IS THE ONLY BIG TABLOID PUBLICATION in Existence That Tells You WHERE & HOW —EVERY MONTH—



- **To Buy Bankrupt, Closeout, Surplus Bargains!**
- **To Buy Items at Wholesale! • At Below Wholesale!**
- **To Buy Many New & Unusual Items!**
- **To Obtain Information on Rare Money Making Offers!**

TOYS, BOOKS, JEWELRY, GREETING CARDS, COSMETICS, HOUSEHOLD MERCHANDISE, APPLIANCES, INDUSTRIAL MATERIALS, MACHINERY, TOOLS, ETC.

Often as Low as 10c-25c on the Retail Dollar!!

ONE issue of this Sensational NEW publication can save you MORE MONEY than the cost of the entire subscription! You can BUY BETTER, CHEAPER, NEWER THINGS EVERY MONTH OF THE YEAR! Today, when your dollar buys so little, you absolutely need every single issue of BARGAINS in order to get the MOST FROM EVERY PENNY YOU SPEND. Each issue carries HUNDREDS of bargain offers . . . many times SO EXTRAORDINARY that it's hard to believe that they're GENUINE! Buying at WHOLESALE, BANKRUPT, SURPLUS, CLOSEOUT PRICES can save you from 40c to 80c or more on every dollar you spend! THIS MAY BE HARD TO BELIEVE, BUT IT IS THE TRUTH!

YOU Can make FANTASTIC PROFITS Buying Up Bargain Merchandise CHEAP and Selling It CHEAP

Thousands of Agents, Salesmen, Dealers are subscribers to "BARGAINS". They want to know where to buy BEST in order to sell at low prices for BIG PROFITS. NO REASON why you CAN'T DO THE SAME! Special articles in BARGAINS give you valuable tips on HOW to sell these bargains for BIG PROFITS. And you know, EVERYBODY is looking for bargains these days . . . in fact, this is the only kind of merchandise that is being sold in tremendous volume. Ask any big businessman!

Unique "Subscribers Shopping Service" Enables You to Buy Big Name Merchandise at TREMENDOUS SAVINGS

You won't find this feature in ANY OTHER MAGAZINE. ONLY "BARGAINS" has it. For subscribers ONLY, each month it negotiates bargain offers in famous merchandise at LOW WHOLESALE PRICES and then offers them to subscribers AT NO PROFIT! Enables you to buy in small lots—singly or in quantity at the same prices (sometimes even lower) than dealers are paying! This SINGLE FEATURE of BARGAINS IS WORTH THE LOW SUBSCRIPTION PRICE A DOZEN TIMES OVER. Yet, it's only ONE feature among many to be found! Yes, Just one!

"Bargains" Is the ONLY Publication of Its Kind in Existence!

Search your newsstand high and low. You won't find another publication like it! BARGAINS is available by subscription ONLY. Read the glowing letters by subscribers who received their first copies and WERE AMAZED by this sensational publication! You will be, too!

SAVE Up to $1,000—EARN Up to $3,000

We honestly believe that it's possible to SAVE up to $1,000—and EARN up to $3,000 within a year by reading "BARGAINS" EVERY MONTH! WHY NOT PROVE THIS FOR YOURSELF!

Your subscription will automatically include the BIG 1957 CHRISTMAS SPECIAL ISSUE . . . jam full of terrific, eye opening holiday BARGAINS! JUST $2.00—17c per month gives you 12 great money saving issues of BARGAINS!

$2.00 Per Year—12 Big Issues

(Regular price, $3.00 per Year)

Special Limited Time Offer to Get 10,000 New Subscribers!

Your Money Back IN FULL if the First Issue Doesn't Please You!

LET'S FACE IT . . . Claims, promises are easily made on paper. You may or may not believe all we say here. BUT can you go wrong in subscribing to "Bargains" on this iron-clad MONEY BACK GUARANTEE . . . Your money back IN FULL if the first issue that you receive doesn't please you! Can any offer be more POSITIVE, more FAIR than this POWERFUL guarantee?

Tower Press, Inc., P. O. Box 591-MI, Lynn, Mass.

DON'T Take Our Word For It—Here's What Subscribers Say About "BARGAINS"!

". . . Received my 1st issue and may I say IT IS A GREAT MAGAZINE."—M. C., Ark.

". . . I am very pleased with BARGAINS. I have never seen anything like it."—Mrs. D. M., Maine.

". . . Just received my 1st copy of "Bargains" and believe me, it is all that you claimed it to be."—T. A., N. Y.

". . . I was the recipient of my 1st copy a few days ago. I am completely satisfied with the periodical. I also wish to express my appreciation to you for having made the magazine available to me. I shall be pleased to continue my subscription as long as the magazine is available."—W. S., Wash.

Every One OF THESE LETTERS ARE IN OUR FILES & WERE NOT SOLICITED IN ANY WAY OR MANNER!

Here's a FEW Samples of the Bargains Usually Found in "BARGAINS"!

- PENCILS, 57½¢ per Gross!
- 25¢ Rudolph the Reindeer Brooches, 2¢ each!
- Plastic Toy GUNS, 2¢ each!
- $1. Mufflers, Scarfs, 12½¢ each!
- Double edge razor blades, $1.50 per 1000!
- LADIES APRONS, 6¼¢ each!
- $2.50 WALLETS, 30¢ each!
- $1. val. BILLFOLDS, 15¢ each!
- $1. Kiddies handbags, 3¢ each!
- CIGARETTE HOLDERS, 1¢ each!
- BUTTONS, 144 for 25¢!
- NEW Phono records, 78 & 45 r.p.m., 7¢ each!
- 69¢ Insect Repellent, 5¢ each!
- New 20" T.V. Pic. tubes, $21.95 each!
- Famous brand $18.75 perfume, $1. each!
- 49¢ Xmas window decorations, 10¢ per set!
- $1-$3 Hard cover books, 20¢ each!
- $200.00 Surplus typewriters, $23.00 each!
- 50¢ Everyday greeting cards, 7¢ per box!
- $1.95 Men's Silk Ties, 12½¢ each!
- $1. val. personal cloth name tapes, 40¢ for 72!
- 39¢ Under arm deodorant, 2¢ jar!
- $1. Automatic card shufflers, 9¢ each!
- NEW HAIRNETS, ½¢ each!
- $15.00 Electric Percolators, $5.00 each!
- $1.75 Rudolph Reindeer kiddies toiletry sets, 35¢ each!
- $5.50 Lucite Hairbrushes, 65¢ each!
- New Bobby Pins, 70¢ per 700 pins!
- $10. Men's Toiletry Sets, 60¢ each!
- Calendar Wrist Watches, $5. each!
- Christmas Seals, 25¢ per 1000!
- $2.98 Horserace game records, 30¢ each!

• PLUS HUNDREDS OF OTHER SENSATIONAL BUYS!

(Above list merely illustrates type of bargains usually found in this paper. Lists naturally change from month to month.) Pro rate prices based on quantity buys.

——"Tear out Coupon. Mail NOW—at once!"——

Tower Press, Inc., P. O. Box 591-MI, Lynn, Mass.

O.K. Here's my $2.00 for 1 year subscription. Rush me 1st copy!

Name.....

Address.....

City.....State.....

Remember! Your Money Back IN FULL if the 1st issue you receive doesn't please you!

Offer Your Motorist-Friends

GUARANTEED Improvement in MOTOR COMPRESSION ...PEP...and ECONOMY...

and MAKE UP TO $1,500.00 IN A MONTH!

No matter how old your friends' cars are, **unconditionally guarantee** them astonishing increases in compression, gas mileage and oil saving, **even let them judge for themselves!** Amazing new product **backs you up 100%**, hands you opportunity to make big money.

Build Big-Profit REPEAT Business Spare Time With

New, Improved Bigger, Better MOTOR OVERHAUL

NOW WITH NEW MIRACLE FORMULA X-303

Folks try MOTOR OVERHAUL and re-order from you time and again. Fleet operators buy large quantities on daring "You-Be-The-Judge" Guarantee. Sensational Independent Laboratory Report proves that **only moments** after MOTOR OVERHAUL is added to engine oil, compression increases up to 58%, gas mileage up to 54%, oil-saving up to 900%. New larger size, still only $2.98; make up to $1.78 profit on each one. Now with oil-stabilizer Formula X-303 for faster cold-weather starts, cool engine in summer!

FREE! Tear Out This Ad NOW . . .

and rush it with your name, address for complete money-making plans, actual copy of sensational Lab Road Test Report, daring Guarantee . . . all FREE, no obligation. **If you also want a full-size $2.98 can of MOTOR OVERHAUL to test, enclose only $2.00, we ship postpaid. Money back if you wish.**

POPE CHEMICAL CO. 224 W. Huron, Dept. Z-16 Chicago 10, Ill.

ART LEARN AT HOME!

Enjoy glamorous high-pay career or profitable hobby. Learn Commercial Illustrating, Cartooning, Fashion Art, Lettering, TV, etc. We train you at home, in spare time. Low cost. 24-pc. art outfit free of extra cost. **Write for FREE Book** describing easy method. No obligation. No salesman will call on you. **Washington School of Art, Studio 1010, Port Washington, N. Y. (Estab. 1914)**

SPECIAL CATALOG BARGAIN!

NEW! DECORATIVE!

HEAVY WROUGHT IRON TRELLIS

FOR PATIO ROOF SUPPORTS—DIVIDERS, etc.

Use them INDOORS or OUTDOORS! Heavy 1-1/8", black tubular supports with a beautiful wrought iron filigree between them. 8 ft. high, 12" wide. Height can be cut to 7 ft. Available either flat or corner type. Mounting flanges included.

FLAT TYPE 9.95

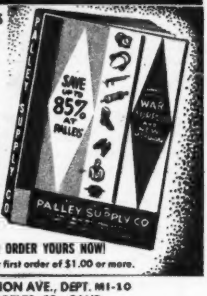
CORNER TYPE 17.95

WORLD'S MOST AMAZING BARGAIN CATALOG

1957 EDITION — 396 PAGES

NATIONALLY ADVERTISED MERCHANDISE • NEW and USED GOV'T. SURPLUS • FACTORY CLOSEOUTS • EXCITING IMPORTS!

From EVERYWHERE PALLEY'S now bring you items of every description! This fabulous catalog contains Hand & Power Tools, Microscopes, Binoculars, Industrial and Building Materials, Housewares, Office Equipment, Sport & Outdoor Equipment, Cameras, Photo Supplies, Hobby Kits & "Gadgets", Electrical & Radio Supplies, Motors & Generators and a HUGE selection of Surplus Hydraulic Cylinders, Pumps, Valves, etc. So many items it's impossible to list them all. You'll have to see it to believe it!



Send 50¢ (for handling & mailing)

LIMITED EDITION! ORDER YOURS NOW!

50¢ REFUND on your first order of $1.00 or more.

Palleys 2263 E. VERNON AVE., DEPT. MI-10 LOS ANGELES 58, CALIF.

Low Cost

HEAVY-BODIED KLEAN-STRIP

Non-inflammable paint remover

Fast · Clean · Safe

The Klean-Strip Co., Inc. · P. O. Box 10084 · Memphis, Tenn.

KEY - BAK KEY-REEL

Carry your keys on a KEY-BAK key-reel. Keeps keys handy! Safe! Keeps clothing neat. 24" long stainless-steel chain reaches all locks. Pocket-watch size. Sturdily constructed to last for years. GUARANTEED. For all who use and carry keys. Dealers Wanted!

LUMMIS MFG. CO., Pasadena 8, Calif. | CTL CO., Wausau, Wis. **$2.95** Ppd.

GOVERNMENT OIL LEASES LOW AS $1 PER ACRE

You do no drilling, pay no taxes, may realize a king-size profit without ever leaving home. Free map and booklet. Write to

AMERICAN OIL SCOUTS, Dept. MI
7321 Beverly Blvd. Los Angeles 36, Calif.

FREE "How To Start Your Own MAIL ORDER BUSINESS"

Earn from $10,000 to $20,000 spare time. We'll put you in business and furnish you with everything needed. Exclusive new catalogs every three months . . . Offer your customers one item free for every two they buy! Free advertising and no stock for you to buy. We ship for you under your own name. No experience required. Write today for free booklet and franchise data.

MAIL ORDER ASSOCIATES, ROCHELLE PARK 29, NEW JERSEY

STUDY TO BE A DOCTOR *of* PSYCHOLOGY *or* METAPHYSICS

Obtain a Ps.D., Ms.D., D.D., or Ph.D. Be a Teacher, Lecturer or Accredited Practitioner. Teach others how to achieve Health, Happiness and Contentment. Chartered by State. Correspondence Courses only. Write for FREE book telling how.

THE NEOTARIAN FELLOWSHIP

Desk 3, Pickwick Building Kansas City 6, Missouri

NEW PRODUCTS MAKE MONEY FAST!

Men, Women! Work Home! Spare Time

Make money at home, in spare time. Simply show samples. 47 eye-catching housewares and gifts sell like wild to your friends and neighbors. *Try it and see!*

SAMPLES FOR TRIAL Sample offer sent immediately to all who send name at once. Hurry—just a postcard will do. SEND NO MONEY—*just your name.*

KRISTEE PRODUCTS, Dept. 776, Akron 8, Ohio

NEW INVENTION

REPLATES AUTO CHROME

with PERMANENT PLATING

MAKE MONEY! SAVE MONEY!

FACTORY-NEW BRILLIANCE FOR CAR CHROME

Here at last is the car-owner's answer to all chrome problems . . . a dramatic new invention —SPEEDPLATER. It actually plates NEW METAL as you brush. And the plating you apply becomes an INDESTRUCTIBLE part of the bumper, grille or trim itself. How your car will shine! You'll be mighty proud when you remove ugly rust spots and replate metal to a NEW SPARKLE . . . when you bring new, gleaming beauty to worn, dull, even blistered chrome areas of your car. This fast sensational method of brush-plating gives FACTORY-NEW BRILLIANCE that bonds itself onto your car. It forms a hard, sparkling surface that defies all elements!

Quickly Builds-up a Thick, New, Plating With Each Application

BUMPERS—GRILLWORK—ALL CAR TRIM RESTORED TO NEW BRILLIANCE!

Here is how easily you replate your car . . . You simply attach SPEEDPLATER'S clamps to your car's battery, then dip SPEEDPLATE Brush into miracle solution. You PLATE WITHOUT REMOVING PARTS FROM YOUR CAR. Works Fast — yet uses less battery juice than the tiniest light on your car.

TRY AT OUR RISK

If you want to put a new permanent gleam on YOUR CAR'S CHROME—you can do it right away and not risk a dime. If you are not satisfied with great results it doesn't cost you a penny! Just mail coupon with only $1 deposit —then pay postman $13.95 plus postage when your kit arrives. If you send $14.95 we ship prepaid. Either way you must be COMPLETELY SATISFIED or you may return all in 10 days for FULL CASH REFUND. ACT NOW—Here's What You Get: SPEEDPLATER Brush with Permanent Anode; Wires and Clamps for battery hook-up; Special Buffs and Buffing Compound; Special Metal Polish; Full, Simple Instructions.

CAR DEALERS & SERVICE STATIONS—Make BIG Profits with Special HEAVY-DUTY OUTFIT!

FACTORY RESULTS and Big Volume Business can make Terrific Profits For You with this Heavy-Duty Outfit. Do your own replating without removing bumpers or grillwork! Increase the value of used cars! Heavy-Duty Outfit Electroplates on current from standard 12 volt storage battery. ENTIRE KIT COMPLETE — Only $34.95 with enough material to plate dozens of cars! You quickly make back cost on your very first job! Re-order solutions always available from us at rock-bottom cost to you. MONEY-BACK GUARANTEE. Order Now — If C.O.D. send $5 deposit.

EMPIRE MERCHANDISING CO.,
4 North 3rd Ave., Mt. Vernon, N. Y. Dept. JM-10

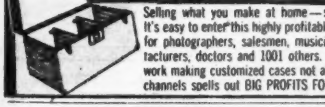
Please rush the electroplating kit I have checked
☐ Regular Kit, $14.95 (If C.O.D. send $1 deposit)
☐ Heavy-Duty Service Station Outfit, $34.95 (If C.O.D. send $5 deposit)
☐ I enclose full price, send postpaid.
I understand that I must be COMPLETELY SATISFIED or I may return kit in 10 days for immediate CASH REFUND.

Name_____
Address_____
City_____ State_____

Make Big Money Plating Other Cars!

Now you can add to your income during spare time . . . because 8 out of 10 cars on the road today NEED REPLATING. You can charge from $5 for touching-up to $50 for replating an entire car. It's easy and there's good money in it for you. When your neighbors see the brilliant plating on your car, they'll surely want you to do the job for them! Replate other things for profit too —faucets, tools, home appliances, cutlery, doctor's and dentist's instruments.

YOU MAKE 'EM! WE SELL 'EM! EVERYWHERE...



Selling what you make at home—sparetime or full time. It's easy to enter this highly profitable field of making cases for photographers, salesmen, musicians, instrument manufacturers, doctors and 1001 others. A few hours of simple work making customized cases not available in the ordinary channels spells out BIG PROFITS FOR YOU.

YES! MY NATIONWIDE SALES ORGANIZATION WANTS TO WORK FOR YOU!

I'll show you, as I have shown hundreds of others how to make real money in this fascinating craft, and don't forget! I sell what you make when you follow my simple plan. Age is no barrier . . . Write for full, FREE, details today!

ABARSI CASECRAFT 807 SUNSET BOULEVARD Dept. 310, Los Angeles, Calif.

Mr. & Mrs. Cook at 53, paid all debts; bought a new home; created wonderful income.

SO CAN YOU! POSITIVE PROOF SENT TO YOU FREE!!!

READY CUT HOMES DO-IT-YOURSELF $AVE! $ $ $

BUY DIRECT FROM MILL & SAVE ON LABOR COSTS

You can assemble any of the 57 designs from easy-to-follow plans. Every piece marked, easily identified, ready to erect. You don't have to measure or cut. It's all done economically by precision production machinery (not prefabricated). Save high skilled labor costs and material wastes. Save contractor's profits and overhead. Complete with all hardware, paint, nails, roofing, glass, etc. Sterling Homes are modern designed for comfort and convenience. Plans sold separately.

FIVE EASY PAYMENT PLANS INCLUDING MONTHLY PAYMENT

ORDER TODAY - SAVE UP TO 40%

PRICED FROM $2150.00 AND UP

Send 25c Color Catalog Including Floor Plans

INTERNATIONAL MILL & TIMBER CO., BAY CITY, MICH. DEPT. MI107

OUR BEST VALUE OF THE YEAR!

2½ AMP. RUGGED DUTY ¼" THOR SPEEDRILL

with Geared Chuck—AC-DC 2400 RPM

BRAND NEW!

If your work calls for a "rugged" drill with POWER to SPARE, insist on a 2½ Amp. job . . . and make sure it's THOR! No finer drill made! Solid steel, heat-treated helical gears; thrust taken on hardened steel ball and plate; gears permanently packed and sealed in LIFETIME grease! Switch, trigger and lock assembly simplifies locking and releasing trigger. You'll be wise to buy 2 at this price. Supplies limited!

$14.95 plus 50c pp. & hdlg.

7 POWER Illuminated Loupe

A precision-built 7 power magnifier with built-in light so every detail stands out clear regardless of outside light! Coated lens. Opening in housing permits use with other instruments. For stamp collectors, banks, textile field, photo retouching, model work, students, labs, machine shops, auto mechanics, jewelers, etc. Lens diameter 1-3/16". Removable linen tester plate for counting threads. Worth $9.95! Batteries not included.

$4.95 ppd.

Also Available — 5 x 50 Power Illuminated Loupe

—Same features as above except lens dia. 1⅞". Use where wider field of vision less magnification is needed. Black and silver finish. Batteries not included. Worth $10.95! NOW only..... **$4.95** ppd.

Flat & Hollow Ground CHROME CARBIDE Circular Saw Blades

Guaranteed to Last 4-10 Times Longer Than Any Standard Saw Blade!

By a unique electrolytic process, the surface of these blades is impregnated with an extremely hard alloy . . . guaranteed to give you four to ten times longer service between all sharpenings. All of these blades are rust-proof . . . with less pitch sticking on sides of blades thus causing less friction. All teeth are hand filed with correct bevels . . . blades scientifically designed to stand-up under long, fast production runs and rough use. Available in cross-cut, rip and combination.

Diameter	Flat Ground	Hollow Ground
6"	$2.65	$ 4.15
7"	3.00	4.75
8"	3.25	5.95
9"	4.00	8.55
10"	4.75	11.20

Add 20c for each blade to cover postage & handling.

All size blades with ½" and 5/8" round bores. Also to fit Mall, Skil, Black & Decker, etc., saws.

Send Check or M.O. C.O.D. fee extra — MONEY BACK GUARANTEE

SCOTT-MITCHELL HOUSE, INC. Dept. M-449, 611 Broadway New York 12, N. Y.

EXCLUSIVE DOUBLE-BEARING

HEAVY DUTY PUMPS

IRRIGATE • DRAIN • CIRCULATE • SPRAY

Up to 7,500 GPH; 1,000 GPH 60' high; or 3,000 GPH from 25' well. Use ¼ to 1 HP motor. 1¼" inlet; 1" outlet. Stainless shaft. TYPE X—2 oil-less bronze bearings. Won't rust..... **$10.95**

TYPE XB—Ball bearing model. Best for belt drives..... **$12.95**

Postpaid if cash with order. Don't delay—send for yours today!

MONEY BACK GUARANTEE

Centrifugal and Gear Pumps in All Sizes

LABAWCO PUMPS, Belle Mead 29, N. J.

LEARN UPHOLSTERY in your spare time run your own business AT HOME

FREE TOOLS WITH COURSE!

FREE BOOK SAMPLE LESSON WITH COURSE YOU MAKE SLIPPER CHAIR CLUB CHAIR OTTOMAN PLUS SLIP COVERS

BE YOUR OWN BOSS

Earn more from the start while learning AT HOME. Set up your own profitable business at home, enjoy steady income, independence—in the booming field of Custom Furniture Upholstery.

EARN WHILE YOU LEARN . . . the easy UTS way

Right off you start with tools, complete frames, fabrics, materials, included FREE with your UTS course. You learn skilled professional custom upholstery, reupholstery, furniture finishing, repairs; to make slip covers, window cornices, cushions, draperies in your spare time.

Send for FREE Illustrated Book, Sample Lesson

Get ready for well-paid job, steady work and big profits as your own boss. Also Training in N.Y. School. APPROVED FOR VETERAN TRAINING.

MAIL COUPON TODAY. No obligation.

UPHOLSTERY TRADES SCHOOL, Dept. FR-1510
721 Broadway, New York 3, New York

Please send me FREE book with FREE Sample Lesson. No obligation—no salesman will call.

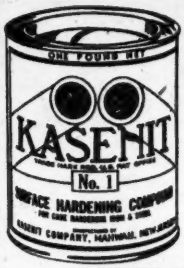
☐ Home Study ☐ In N.Y. School Training

Name _____
(Please print plainly)

Address _____

City _____ Zone ___ State _____

☐ Check if Korean Veteran



KASENIT COMPOUND FOR CASE HARDENING OF TOOLS, MACHINERY, ETC.

Needs No Special Equipment

- NON-Poisonous
- NON-Explosive
- NON-Inflammable

USED BY NATIONALLY KNOWN FIRMS

★ SPECIAL INTRODUCTORY OFFER
1 Pound CAN only $2.50 Postpaid.
With "How to Use Instructions and Applications"
Money back if not O.K. (FREE FOLDER)

KASENIT CO. (Est. 1912) 3 King St., Mahwah, N. J.

earn $15 HOUR as TAX EXPERT

Our students earn as much as $3,000 in 3 short months preparing income tax returns in spare time—also operate lucrative Business Tax Service yielding steady monthly fees of $10-$50 per client, year round. Enjoy professional standing in dignified home office business. No experience necessary. We train you at home and help you start. Write today for free literature. No agent will call. Approved by N. J. Dept. of Education. UNION INSTITUTE OF TAX TRAINING, 68-70 Hudson St., Hoboken (50D), N. J.

WE PAY $3.50 lb. dried

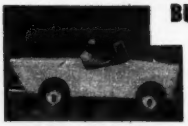
GROW MUSHROOMS. Cellar, shed and outdoors. Spare or full time, year round. We have over 25,000 customers. FREE BOOK. Washington Mushroom Ind., Dept. 63, 2954 Admiral Way, Seattle, Wash.

GOVERNMENT 40 ACRE

OIL LEASE $100

Act of Congress gives citizens equal rights with Oil Co's. to obtain Govt. leases. You do no drilling, yet may share in fortunes made from oil on public lands. (Payments if desired) Licensed & Bonded Oil Brokers. Free Information & Maps of booming areas. Write:

NORTH AMERICAN OIL SURVEYS
8272-B Sunset Blvd., Los Angeles 46, Calif.



BUILD, modern, lightweight, SPORTS CAR

Designed for home construction. Two passenger, adult size, all steel, eight H.P. motor, VARIMATIC TRANSMISSION and reverse. Use scooter parts. Drawings, permit, material and tool list. All for $3.00. Ask about KITS and finished cars.

TRICE MOTORS, Dept. MI, Gilbertown, Alabama

MONEY MEN ALL DATA FREE

THE PLASTEX Industry needs manufacturers on small scale and for big production of Lamp and Clock Stands, Art Goods and Novelties in Plaster and Marble imitation. Experience unnecessary. ½c material makes regular 10c store sellers. Rubber molds furnished for speed production. Small investment brings good returns. We are now placing big chain store orders with manufacturers. Ambitious men have chance for real prosperity. Our free booklet will interest and benefit you.

PLASTEX INDUSTRIES, DEPT. 3
3400 THIRD AVE., NEW YORK 56, N. Y.

MAD FOR LADS
who use AERO SHAVE!

Save 20¢ a Can!

So, go man! Get rich, creamy AERO SHAVE . . . the smoothest, slickest lather bomb of all! Three beard softeners *plus* gentle Lanolin! *Feel—save* the difference! Only 59¢.

59¢ AERO SHAVE

WARN HUBS ON YOUR 'Jeep'
STOP FRONT DRIVE WEAR

Models for all 4 w.d. to 1½ tons

Over 100,000 Warn Hubs are now in use, *proof* that free-wheeling 2-w.d. with Warn Hubs means big savings in gear, engine, tire wear, gas, *plus* more pep, performance, power in high and easier steering. Now, with Warn Lock-O-matics, you have economical, drag-free 2-w.d. or tractive 4-w.d. *automatically, as you shift!* Ask your *local* 4-w.d. dealer to install Warn Lock-O-matic or Locking Hubs today. Fully guaranteed. Write for free literature.

WARN MFG. CO., Riverton Box 6064-C10, Seattle 88, Wn.

ENGINEERING DEGREE IN 27 MONTHS

B.S. Degree. Aero., Chem., Civil, Elec., Mech. & Electronic Eng. (inc. Radio, TV). 36 mo. B.S. degree in Math., Chem., Physics. Prep courses. Demand for grads. Spacious campus. 20 bldgs; dorms, auditorium, gym. Low rate. Earn board. G.I. appr. Enter Dec., March, June, Sept. Catalog. 1010 E. Washington Boulevard, Fort Wayne 2, Indiana

Keeping pace with progress

INDIANA TECHNICAL COLLEGE

NEW DISCOVERY!

GLOW-PRINTING

AMAZING NEW HOME-BUSINESS OPPORTUNITY

EARN BIG MONEY

NO PRESS NEEDED—SUPPLIES COST PENNIES

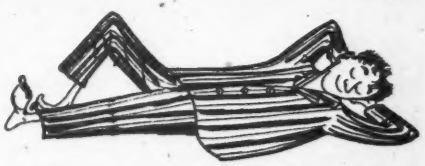
Tremendous opportunity. to earn up to $10 per hour in your own home in spare time only. Learn to print signs, banners. posters—anything in amazing RADIANT GLOWING COLORS you can see for miles. Earn up to 300% profit filling orders to meet huge demands in every area. Some earning over $1,000 per month already. No art experience needed.

FREE SAMPLES & HOME-PROFIT DETAILS

Send name and address and we'll rush samples revealing details to you. Don't delay!

SCREEN-PRINT CO. Dept. 310, 15127 S. Broadway, Los Angeles 61, Calif.

Still dreaming about a good job and more pay?



WAKE UP TO YOUR OPPORTUNITIES IN

Auto Mechanics

PRACTICAL NEW WAY TO TRAIN AT HOME

Don't rely on *luck* to make your dreams come true! Be practical and depend on *training*. As a skilled man, you can earn up to $125 a week and more—enjoy security—and even open a shop. Your best bet is to become an auto mechanic. *That's the big opportunity field today.* Over 60 million cars and trucks are on the road, and all require maintenance. At least one-third are in the heavy-repair class. There's so much work that 50,000 mechanics are needed! It's easy to learn this trade at home. Find out *how* by mailing coupon below.

EARN MONEY IN SPARE TIME as you train. Many students repair cars for neighbors; others get jobs in local garages; some open shops by the time they graduate. You can learn-and-earn because CTI offers practical *Shop-System* training.

DIESEL MECHANICS OR BODY-FENDER REBUILDING is included at no extra cost. Only CTI offers this extra choice. Get this fully-rounded mechanic's training. *Send coupon for two free books.*

YOU PRACTICE WITH THIS TUNE-UP KIT

Kit includes a Compression Tester, a Vacuum Gauge and Fuel Pump Tester, an Ignition Timing Light, and a portable steel case. These professional instruments help you locate engine troubles, let you get useful practice. You keep this kit!

MECHANIC'S TOOLS TOO

You'll use these tools to get real experience. They'll increase your interest, stamp you as a "pro." You'll earn spare time cash with them. No extra cost for tools—you keep them.

MAIL COUPON TODAY!

MAIL TODAY FOR 2 FREE BOOKS

COMMERCIAL TRADES INSTITUTE
1400 Greenleaf Ave., Chicago 26
Dept. A-643

Send your new Auto Mechanics book and Sample Lesson. BOTH FREE.

Name_____ Age____

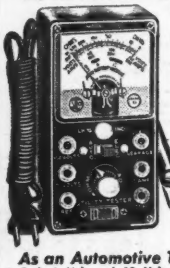
Address_____

City_____ Zone____ State____

Superior's New Model 70 UTILITY TESTER ®

FOR REPAIRING ALL ELECTRICAL APPLIANCES
MOTORS • AUTOMOBILES • TV TUBES

As an electrical trouble shooter the Model 70:



- Measures A.C. and D.C. Voltages, A.C. and D.C. Current, Resistances, Leakage, etc.
- Will measure current consumption *while the appliance under test is in operation.*
- Incorporates a sensitive direct-reading resistance range which will measure all resistances commonly used in electrical appliances, motors, etc.
- Leakage detecting circuit will indicate continuity from zero ohms to 5 megohms (5,000,000 ohms).
- Will test toasters, irons, broilers, Heating Pads, Clocks, Fans, Vacuum Cleaners, Refrigerators, Lamps, Fluorescents, Fans, Switches, Thermostats, etc.
- Will test *all* TV tubes for open filaments, inter-element shorts, burned out tubes, etc.

As an Automotive Tester the Model 70 will test:
• Both 6 Volt and 12 Volt Storage Batteries • Generators • Starters • Distributors • Ignition Coils • Regulators • Relays • Circuit Breakers • Cigarette Lighters • Stop Lights • Condensers • Directional Signal Systems • All Lamps and Bulbs • Fuses • Heating Systems • Horns • Also will locate poor grounds, breaks in wiring, poor connections, etc.

Model 70 comes complete with 44 page book written in plain easy-to-understand language. Explains laws of electricity, how to proceed with repairs of appliances and automobile circuits, how to test TV tubes, etc. Only **15.85**

SHIPPED ON APPROVAL
NO MONEY WITH ORDER — NO C. O. D.

Try it for 10 days before you buy. If completely satisfied then send $3.85 and pay balance at rate of $4.00 per month for 3 months — No Interest or Finance Charges Added. If not completely satisfied, return to us, no explanation necessary.

MOSS ELECTRONIC DIST. CO., Inc.
Dept. D-393, 3849 Tenth Ave., N.Y. 34, N.Y.
Please rush me one Model 70. If satisfactory I agree to pay $3.85 within 10 days and balance at rate of $4 per month until total price of $15.85 plus postage is paid. If not satisfactory, I may return for cancellation of account.
Name .....
Address .....
City ..... Zone ..... State .....

Learn CARBURETOR and IGNITION

Start Training at Home For This Clean, High-Class Type of Position

Get in line for a raise—or for more profits in your own shop. Learn testing and adjusting with latest-type scientific motor tune-up equipment. This enables you to locate the trouble exactly, and fix it fast—handling and getting paid for *more jobs per day.* There's money in this, and it's clean, high-class work which gets the respect and confidence of your customers.

Send for FREE SAMPLE LESSON

Carburetor and Ignition Specialization offers very superior opportunities for better pay and bigger profits because relatively few mechanics know anything about this time-saving, money-making new test equipment. Now our spare-time home-study method teaches you the principles and shortens your shop training. Ambitious men (age 18-55): Send for full FACTS AND FREE SAMPLE LESSON at once. Write today to

UTILITIES ENGINEERING INSTITUTE
2525 Sheffield Ave., Dept. OJ-4, Chicago 14

High School at Home

MANY FINISH IN 2 YEARS

No classes. No time wasted going to and from school. Progress as fast as your time and abilities permit. Standard H. S. texts supplied. Thousands enroll each year in this 60-year-old school. Send for FREE descriptive booklet.

AMERICAN SCHOOL, Dept. H728
Drexel at 58th St., Chicago 37, Ill.
Without obligation, please send FREE descriptive booklet.
Name .....
Address .....
Complete Canadian Courses available. Write American School, Dept. H728, 6083 Sherbrooke St. W., Montreal.

Hearthside highballers will welcome the new 64-page "Model Railroaders Catalog" available now from Bernie Winston of America's Hobby Center, 146 West 22nd St., New York 11, N. Y. Send 25c to cover mailing and handling.

A recently formed New England firm will be a big producer of Fiberglas reinforced building panels. These panels have built-in colors, come in various sizes and finishes and are easily worked with ordinary hand or power tools. For further information write Stanton D. Barket, International Plastics Corp., Box 391, Branford, Conn.

Free information on the many uses of transparent polyethylene film (which now comes in handy self-dispensing packages) may be had by dropping a card to the Kordite Company, Macedon, N.Y.

Attention carcrafters! The new revised edition of "The Glasser's Manual" is out. Tells the full story on how to build, repair, modify, restore and customize your car with Fiberglas and resin. Send one dollar to Taylor & Art, Inc., 1710 E. 12th St., Oakland 6, Calif.

An eight-page booklet, "How To Control The Sun," is yours for the asking from Ray-O-Lite Corp. of America, 316 Peachtree St., N.E., Atlanta 8, Ga. This brochure traces the history of shading devices from their earliest beginnings to the latest innovations in translucent Fiberglas awnings and tells you what to look for when buying them. Refer to Booklet 57-IB.

The Master Builders Co., 7016 Euclid Ave., Cleveland 3, Ohio, are offering a package deal that includes a 35-pound bag of Colorcron which is applied to freshly placed concrete and produces a uniformly-colored surface and a one-pound can of Colorwax that cures and finishes new colored concrete floors. •

Would YOU Like to Make $1,000 A MONTH?

New Midget Miracle—"Presto"

That's What Stanley Hyman Made Selling PRESTO

AMAZING MIDGET FIRE EXTINGUISHER

Stanley Hyman

Sensational! Presto does job of bulky extinguishers costing 4 times as much. Ends fires fast as 2 seconds; fits palm of hand. Never corrodes; guaranteed 20 years! Sells for only $4.95. Show it to owners of homes, cars, boats, farms, etc., and to stores for re-sale—make good income. Write for FREE Sales Kit. No obligation.

MERLITE INDUSTRIES, Presto Div., 114 East 32nd St., Dept. P-10B, New York 16, N. Y. In Canada: Mopa Co., Ltd., 371 Dowd St., Montreal 1, P. Q.

Make $5 an Hour CASH PROFIT

THE DAY YOU START!

Start your own business at Home... Sharpen Household, Garden and Shop Tools in Spare Time.

Turn spare time into Big Cash Profits with new Belsaw Sharp-All. No experience needed to sharpen knives, scissors, shears, ice skates, mower blades, hedge trimmers, axes, chisels and circular saws . . . Learn how easily you can start your own spare time business. Amazing low cost easy-payment plan. Send Postcard for **FREE BOOK.**

BELSAW SHARP-ALL CO, 7188 Field Bldg., Kansas City 11, Mo.

MODERN IMPROVED LAWN MOWER SHARPENER AND BED KNIFE GRINDER

Sharpen any mower in 10 to 20 minutes. Hand—Power—Reel or Rotary. Modern is actually two machines in one a Precision Bed Knife Sharpener and a Precision Reel Sharpener. Extra Bed Knife Grinder is Absolutely Unnecessary. New Mower Support makes it possible to sharpen reel without removing bed knife. The fastest precision lawn mower sharpener on the market. Costs Less. Compare Modern's Many Exclusive Features Before Buying. Send for Free Brochure No. 20 D

MODERN MANUFACTURING CO.
160 North Fair Oaks Ave., Pasadena, California

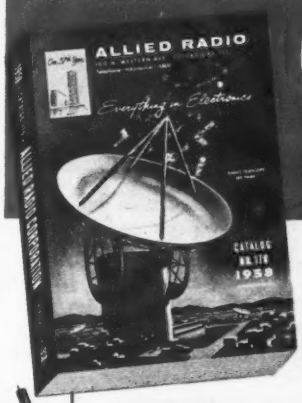
Bean's Free Catalog

Fully illustrated, 108 pages, showing Hunting Footwear, Clothing, and one hundred and twenty other leather and canvas specialties of our own manufacture for campers and hunters.

L. L. Bean, Inc., 158 Main St., Freeport, Maine

Mfrs. Hunting and Camping Specialties

Free! ALLIED'S 1958 ELECTRONIC SUPPLY CATALOG



404 value-packed pages

Send for it!

SAVE on everything in electronics

EASY TERMS AVAILABLE

WORLD'S LARGEST STOCKS

Here's everything in Electronics for Experimenters, Builders, Amateurs, Servicemen, Engineers and Hi-Fi Hobbyists:

- **Amazing Build-Your-Own KNIGHT-KITS**
- **Hi-Fi Music Systems & Components**
- **Recorders & Phono Equipment**
- **TV Tubes, Antennas, Accessories**
- **Public Address Systems**
- **Amateur Station Equipment**
- **Latest Test Instruments**
- **Industrial Electronic Supplies**
- **Parts, Tubes, Transistors, Tools and Books**

SAVE on everything in Electronics—get fast, dependable service—send today for your FREE 1958 ALLIED Catalog.

Everything in Electronics From One Reliable Source

our 37th year

FREE Catalog

ALLIED RADIO

ALLIED RADIO CORP., Dept. 6-K7
100 N. Western Ave., Chicago 80, Ill.

☐ Rush FREE 1958 ALLIED 404-Page Catalog

*Name*_____

*Address*_____

*City*_____ *Zone*_____ *State*_____

RUGGED

WOLVERINE GLOVES

...but oh so comfortable

For complete hand protection, wear rugged Wolverine Pigskins. Triple-tanned for extra wear, yet soft, flexible — soak 'em, they dry out soft, comfortable.

feel that tanned-in softness

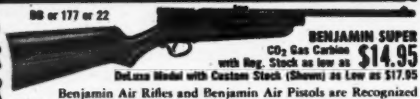
rockford, michigan

KEEP YOUR... on BENJAMIN for HIGH H C COMP

"First in POWER and ACCURACY"

AIR GUNS & CO_2 GAS GUNS—Top Quality at LOWEST PRICES!

BB BB or 177 or 22



BENJAMIN SUPER CO_2 Gas Carbine with Reg. Stock as low as $14.95

DeLuxe Model with Custom Stock (Shown) as Low as $17.95

Benjamin Air Rifles and Benjamin Air Pistols are Recognized All Over the World for Finest Workmanship and Highest Quality at Lowest Prices. Adjustable Power with Amazing Optimum Force. Fully Guaranteed — Safe — Accurate — Economical. Easy to Use anywhere — 12 Models for Target and Small Game BB or 177 or 22.

All Models Benjamin CO_2 Carbine Gas Rifles and Benjamin CO_2 Rocket Gas Pistols Use Standard Size CO_2 Cartridges (available everywhere). 2-Stage Hi-Lo Jet Power — High for Small Game — Low for Target — Up to 50 Shots from each Cartridge. No Pumping — Safe — Accurate — Economical — Non Toxic — 12 Models BB or 177 or 22.

FREE! Catalog All Models Benjamin Air Guns & CO_2 Guns & Supplies. Also, Money-Saving Offer on Hunting & Fishing Accessories.

Send Free Gun Catalog and Special Offer!

BENJAMIN AIR RIFLE CO., 814 MARION ST., ST. LOUIS 4, MO., U.S.A. MAIL TODAY!

Name _____

Address _____

City _____ State _____

INSURED TIRE SERVICE

POPULAR BRANDS

SPECIAL! Deduct 10% on orders for TWO or More used tires

FREE INSURANCE POLICY given with each used tire sold. We guarantee the amount of service you pay for.

NOWHERE CAN SUCH QUALITY BE FOUND AT SUCH LOW PRICE!

YOU CAN'T LOSE!!

GOODYEAR SUBURBANITE TYPE SNOW TIRES

New Tire Guarantee—Factory Rebuilt

BEST WINTER TRACTION OF ALL!

670x15 $8.95 | 710x15 650x16 650x15 $10.90
600x16 710x16 800-820x15

Super Quality—Rugged Performance—6 Months Insured Service					
600x16	$3.65	670x15	$3.95	700x16	$4.45
650x15	3.85	670x16	4.05	710x15	4.35
650x16	4.25	700x15	3.95	760x15	4.45
760x16	$4.75	820x15	$4.95	850x15	$4.95
850x16	5.25	900x20	19.95		

Supreme Quality—Nothing Finer—12 Months Insured Service					
600x16	$5.25	475x19	$5.45	700x15 (6)	$10.45
600x16(6)	6.75	640x15	4.95	750x16(8)	15.95
650x16	5.75	670x15	5.35	700x17	11.95
650x16(6)	7.25	710x16	5.45	750x17	16.45
700x16	6.35	760x15	5.95	750x15	10.95
750x16(6)	6.45	800x15	6.35	30x5	11.25
550x18	4.95	820x15	6.35	600x20	10.95
550x17	4.75	550x15	5.35	650x20	11.75
650x15	5.25	670x16	5.15	32x6 (8)	11.95
700x15	5.35	700x16(6)	10.25	32x6(10)	12.75
700x20	$12.50				
750x20(8)	15.50				
750x20(10)	17.50				
825x20	21.50				
900x20	19.95				
1000x20	20.45				
1100x20	21.25				
1000x22	21.95				
1100x22	22.75				
1100x24	25.95				

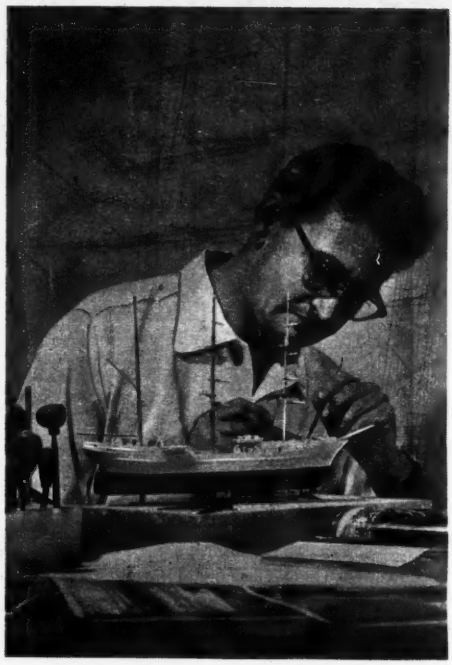
Whitewalls $1.00 extra.

MIDLAND TIRE SALES

Speedy shipments on Mail Orders. F.O.B. Chicago. Insurance policy sent with each order. Deduct 10% on orders for 2 or more used tires. Send CHECK or MONEY ORDER.—No COD's.

3701 S. Normal, Dept. ME-51, Chicago 9, Ill.

Speaking of Jobs . . .



The Scaler Downer

TOM HOGG knows so much about the ships that sail the seven seas that people call him Skipper—and he has never set foot aboard a blue water vessel. Hogg is a model maker, or "scaler downer," for the famous Revell, Inc., of Venice, Calif. His models, made from the blueprints of real ships, are the prototypes of the fine plastic model kits now to be found in hobby shops and toy stores all over the country.

On the job Hogg alternates between the handicrafts table and the microscope; he generally checks from 500 to 750 photos microscopically to be sure every detail of his model is accurate. From his minutely detailed models steel dies are made that produce the plastic kit parts by the millions. The average plastic hobby kit ship can be put together in five or six hours; the average model takes Hogg from five to six weeks. How did this ship-wise landlubber get into this line of work? Same old story —he was a model shipwright as a boy. •

LEARN MEAT CUTTING AT NATIONAL

Pay After Graduation

The steady dependable trade of Meat Cutting taught easily in 8 short weeks. YOU LEARN BY DOING under actual meat market conditions in big modern school at Toledo.

For beginners or men with experience. Get a profitable store of your own. Remember, PEOPLE MUST EAT! Big pay jobs. Free employment help. Thousands of successful graduates.

Buying, cutting, percentage, pricing, advertising, selling, etc. A complete retail meat education. National School established 35 years. Get National training NOW. Pay your tuition in easy weekly payments after you graduate. Send coupon for FREE 52 page school catalog—TODAY. G.I. approved.

National School of Meat Cutting, Inc., Dept. 52-W, Toledo 4, Ohio

Send me your FREE school catalog on National Training at Toledo in Meat Cutting, Meat Merchandising and Self Service Meats. No obligation. No salesman will call.

Name..... Age.....

Address .....

City..... State.....

Approved for training Korean Veterans

$AVE $ ON U$ GOV'T $URPLU$

Our publication "Government Surplus Sales" lists hundreds of items for sale by the U. S. Government at tremendous savings, as low as 1c on a $1.00.

These are samples of the savings that are being made:

LIFE BOAT $12.00	GRINDER $4.69	SHAPER $15.00	DUMP TRUCK $76.77
TRACTOR $75.00	TYPEWRITER $7.51	FREEZER $50.00	SPRAY PAINTER ...$15.25
	MOTOR $4.00		

Hundreds others listed in our bulletin "Government Surplus Sales" and may be purchased direct from U. S. Government. Hunting, Fishing, Camping, Sporting Equipment, Photographic Equipment and Supplies, Radio and Electronic Equipment, Amphibious Trucks, Jeeps, Boats, Motors, Binoculars, Plumbing, Electrical Equip., Cars, Power Tools, Machinery, Chemicals, Furniture, Office Equipment, Supplies, Scrap, Etc.

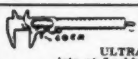
How may you receive our bulletin "Government Surplus Sales?" By sending $1.00 to

GOVERNMENT SURPLUS SALES, P. O. Box 169, Department 7-2, East Hartford 8, Conn.

WAR SURPLUS AND OTHER BARGAINS SAVE UP TO 90%

CHRONOMETRIC TACHOMETER Built to U.S. Navy & Air Force specifications. Standard brand. Accuracy to 1/10 of 1%. For counting Revolutions per minute for any rotating shafts. Can be used on speeds up to 3000 RPM. Comes complete with male & female tips and shock proof case. GOVT. COST $81.25 NEW. $24.95 ppd.

BUTANE BLOW TORCH KIT. A must for any well equipped tool chest. Precision soldering, brazing or metal craft. Starts charcoal fires, too. Tiny, clean, safe charge, 3500° pinpoint flame; turns on & off. Featherweight, 7" long complete. Kit incl. torch, solder, tip, extra fuel cartridge—$2.95 ppd. BLOW TORCH ALONE—$1.95 ppd.



"HELIOS" ORIGINAL TOOLMAKERS VERNIER CALIPERS

ULTRAPRECISION — Imported. Used by machinists at Lockheed, Douglas, Bendix, GM, RCA, GE. Model 51/2E. Genuine Helios. Hardened lapped precision surfaces. 1/1000" and 1/128" graduations. Handy slide roll and thumb lock. Quick, accurate depth. A $35 value. De Luxe finish. ALL NEW. Just $6.95. Leather carrying case, $1 extra.

DUPONT EXPLOSIVE RIVETS! A must for the man who works with sheet metal. A hot soldering iron placed on the head of the rivet will explode and mushroom the other end of the rivet self-bucking itself. 1/8" - 5/32" - 3/16". Round and flat heads. Approx. GOVT. COST $50.00 a 1,000. NEW. 1,000 assorted, $5.00 ppd.

140-1 REDUCTION GEAR Make your own winches, hoists, wagon unloaders, stump pullers or fence stretcher. Sturdy aircraft quality. Built-in (removable) 24 Volt DC motor & clutch. High torque. Low speed. 100's of uses. Wt. 42 lbs. Approx. GOVT. COST $300. Like NEW. $12.00 *225-1 Reduction Gear, same as above — $13.50.

HEAVY-DUTY RHEOSTAT Designed for heavy-duty use with Air Force heated suits. Ideal for regulating voltage on electric welders, model trains, lights, generators; controls soldering irons, etc. Rated 5.75 ohms, 100 watts with double windings and dual female 25 amp. 125 volt receptacles. Size: 7" H x 5¼" W x 1¾" D. Shpg. Wt. 2½ lbs. Approx. GOVT. COST $25. Brand new, only $1.95.

P1 ARC WELDER KIT $27.95. Build your own complete make-up package consisting of 1 Aircraft DC Generator, famous mfrs. 200 to 250 Amps, 24 Volt. RPM from 2600 up. 1 Rheostat, 1 Giant Toggle Switch, 1 Ammeter, 1 Shunt, 0 to 240 Amps. 1 Voltmeter, 0 to 30 Volts. 1 Electrode Holder. 1 Welder's Shield. 1 Voltage Regulator. Wiring diagram for hookup as welder. Wt. under 100 lbs. Approx. GOVT. COST $475. Like new, perfect . . . $27.95.

Complete Kit shown above less generator — $18.75
All generators sold are pre-tested prior to shipment.

MICROMETERS Black crackle finish frame. Easy-to-read graduations in .001. NEW. 0-1" cap. $2.69 ppd. 1-2" cap. $3.79 ppd.

JUST OUT! 1958 CATALOG. BIGGEST YET! FANTABULOUS!

Thousands of bargains in war surplus and other items. Hundreds of pictures. A must for the value minded! Send 25c for your copy today!

Postpaid prices in USA only. Other prices FOB Culver City, Calif. Send check, cash or money order. 50% deposit required for COD orders.

AIRBORNE SALES CO., INC. DEPT. MI1057
8501 Stellar Drive, Culver City, Calif.

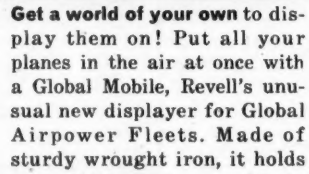
GLOBAL AIRPOWER

Build all the exciting planes on this globe

with Revell Authentic Kits

Put together your own Global Airpower Fleet of realistic combat plane models by Revell! They're scaled from official blueprints to make every detail authentic, from the hinged nose door and eight whirling propellers on the Convair Tradewind to the "air flow fences" on the Grumman F9F-8 Cougar.

Whether you start your collection with the mighty B-36 bomber or the tiny Douglas Skyhawk, you'll end up with a Global Airpower Fleet to be proud of when you build from Revell Authentic Kits.



Get a world of your own to display them on! Put all your planes in the air at once with a Global Mobile, Revell's unusual new displayer for Global Airpower Fleets. Made of sturdy wrought iron, it holds up to thirteen plane models in an attractive, compact unit. You can hang it from the ceiling or stand it on a table. Use attached coupon to order your Global Mobile now.

Send coupon with $3 (check or money order) to: Revell, Inc., Dept. 10, 4223 Glencoe, Venice, California.

I enclose $3. Please rush my Global Mobile Display Pack, including 1 Revell Global Mobile, 12 plastic plane-grip cups, 1 Revell swivel plane base, 1 four-foot nylon suspension cord, special plastic cup lubricant, brightly colored Revell flag, and a sample tube of plastic kit cement.

Name (print) _____

Address _____

City _____ **Zone** _____ **State** _____

Wherever hobby kits are sold!

Revell *Authentic Kits*

MI Classified Ads

Your advertisement can reach this mail-buying audience of more than a million readers for only 90c per word . . . payable in advance (Check or M.O. please) . . . minimum 10 words. Copy to be inserted in December issue must be in the office October 3. Mail to MECHANIX ILLUSTRATED, 67 West 44th St., New York 36, N. Y. Word count: Zone number free. Figure one word: Name of state (New Jersey), name of city (New York); sets of characters as in key (14-D); also abbreviations as 35MM, 8x10, D.C., A.C.

SAVE MONEY • ORDER BY MAIL

• • • ADVERTISING & BUSINESS SERVICES

MAILING LISTS. Most all kinds, 1000, $5.00. Your circulars mailed with ours 1000, $4.00. Free details. Dixie Mailers, King, N. C.

ADVERTISE: 24 WORDS, 100 Canadian Newspapers, $5.50. Lists Free. Advertising Bureau, 10511-B Springfield, Chicago 43.

• • • AGENTS WANTED

CHRISTMAS CARDS—Impressive albums of Deluxe and Popular-priced greetings with customer's name imprinted. 150 lavish designs for Business and Personal use. Wide selection for every taste and budget. You can earn $300 to $500 commissions—even in spare time—between now and Christmas. Sales experience unnecessary. We furnish free fully equipped sales kit complete with albums and easy-to-follow selling instructions. Dependable service guaranteed by old established manufacturer. Write Process Corp., 1952 S. Troy, Dept. EP, Chicago 23, Ill.

TREMENDOUS PROFITS! Every man, woman and child a customer. Suits $1.50, Pants 35¢, Dresses 20¢, Shoes 20¢. Operate from store, home, car. Free catalog. Superior, 1250-C Jefferson, Chicago 7.

"FOG-STOP" WINDSHIELD Cloth. Instantly removes blurry Mist, Frost, Sleet, Snow. Stops windshield fogging. Samples sent on trial. Kristee 70, Akron, Ohio.

AMAZING GREETING Card Assortment pays 85¢ cash profit on $1.25. Make $85.00 fast! Gift Bonuses besides. Outstanding new Christmas Cards, Novelties, Free Imprint Album. Samples on approval. Act fast—get Golden Egg Banks Free. Creative, 4401 Cermak, Dept. 509-G, Chicago 23.

60% PROFIT ON Cosmetics—famous nationally advertised Hollywood cosmetics pay 60%. Make $25.00 day up! Hire others. For free samples, details, write Studio Girl, Glendale, Calif., Dept. 50710G.

MAKE MONEY quick, easy, taking subscriptions from every family in your community. Liberal commissions. We tell you how, furnish all supplies free. Write McGregor Magazine Agency, Dept. 140, Mount Morris, Ill.

GOLD OR Silver Letters, Numbers. Windows, Doors, Trucks. 1" to 6". 500% Profits—Free Samples. Atlas-R, 544 West 79th, Chicago 20.

MAKE GOOD Money In Spare Time without taking a job or putting in regular hours and without experience. $50 to $200 can be yours by showing Regal Christmas Cards to friends, neighbors, co-workers. So unusually beautiful they sell on sight. Write for Free Christmas card album and sample boxes on approval. Regal Greetings, Dept. 42, Ferndale, Mich.

YOUR OWN business—Suits $1.50; Overcoats 65c; Mackinaws 35c; Shoes 12½c; Ladies' Coats 30c; Dresses 15c. Enormous profits. Catalog Free. Nathan Portnoy Assoc., 605-M West 12th Place, Chicago 7, Ill.

PRINTING, ADVERTISING Salesmen—Excellent moneymaking sideline selling Decalcomania Name Plates, small quantities. Automobile Initials, Sign Letters. Free Samples, "Ralco," XL, Boston 19, Mass.

SAVE MONEY! Buy Wholesale! Free catalog, general merchandise. Norris, 487-J Broadway, New York.

BUY WHOLESALE! Over 10,000 Nationally Advertised Products. Appliances, Cameras, Sporting Goods, Housewares, Watches, Typewriters, Tools, Clothing, etc. Send Postcard Today. Buy-Rite, Box 258, Hawthorne 22, N. J.

EVERY MAN a prospect. Request free sales kit showing line of belt buckles, individualized with customer's name and emblems, also cap badges for trucking, bus, taxi, police, firemen. Choice 3000 emblems. Hook-Fast, Box 1425MI, Providence, R. I.

$1,000.00 A MONTH for making dramatic 3-second demonstration of amazing lightweight Presto Fire Extinguisher. New chemical used by Airforce snuffs out fires instantly. Only $4.95. Terrific commissions. Millions want it. Free Kit. Merlite, 114 E. 32nd, Dept. P-60B, New York 16.

WHERE TO Buy thousands nationally advertised products at rock-bottom wholesale prices. Rush name, address for Free "Wholesale Plan." Glass, Ellwood City 1, Penna.

BUY WHOLESALE! 100,000 Name Brand Products. Save 66⅔%! Big profits selling others spare time! Free Catalogs! National Buyers Service, Box 3338GE, San Francisco.

FANTASTIC DISCOUNTS! Buy Wholesale! Jewelry, watches, wallets, pens, lighters, etc. Postcard brings free gift and catalog. Manufacturers, 404 Monroe, Passaic, N. J.

LEATHER BILLFOLDS from manufacturer. Sample $1. Free illustrated catalog. Olympic, New York 72, N. Y.

BEAUTIFUL FEATHER Pictures. 200% Profit! Free Details; Sample 20¢ Stamps. Sylviam, Apartado 9036, Mexico City.

EARN BIG money full or part-time. Quickie Spray shines all leather instantly without buffing, brushing. Be first. Rush refundable $1.00 for demonstrator, selling kit. Franchises available. Jim Richards Shoe Co., Dept. MI-107, Wellesley Hills 81, Mass.

WAXES FLOORS Without "Wax." New Invention. No more floor wax to buy. Sensational seller. Samples sent on trial. Kristee 71, Akron, Ohio.

EASY HANDWORK makes fast-selling articles. Sample free. Sunmade Company, Brockton 64, Mass.

MEN, WOMEN, Make Money Spare Time plus New Car as Bonus for Encouragement. Amazing hosiery Guaranteed to wear without holes, snags and runs, or replaced Free. For example, lovely 60 gauge nylons Guaranteed for as long as 1¼ years, or replaced Free. Write Wilknit, 18710 Washington, Greenfield, Ohio.

FREE "$5,000-$45,000; UNLIMITED Vacations." Work home! No merchandise, equipment! Haylings-MI, Carlsbad, Calif.

• • • SALESMEN WANTED

$1,000.00 A MONTH for making dramatic 3-second demonstration of amazing lightweight Presto Fire Extinguisher. New chemical used by Airforce snuffs out fires instantly. Only $4.95. Terrific commissions. Millions want it. Free Kit. Merlite, 114 E. 32nd, Dept. P-60B, New York 16.

ANYONE CAN Sell famous Hoover Uniforms for beauty shops, waitresses, nurses, doctors, others. All popular miracle fabrics—nylon, dacron, orlon. Exclusive styles, top quality. Big cash income now, real future. Equipment free. Hoover, Dept. K-102, New York 11, N. Y.

EXCLUSIVE LINE of personal initialed buckles, belts, cap badges, 3,000 emblems, uniforms, shirts, caps, etc. Hook-Fast, Dept. MI, Roanoke, Va.

IF YOU'RE interested in making money in selling, see the hundreds of exceptional opportunities in Salesmen's Opportunity Magazine. Send name for your copy, absolutely free. Tell us what you're selling now. Opportunity, 848 N. Dearborn, Dept. 19, Chicago 10, Ill.

MAKE EXTRA Money. Cash commissions. Everybody buys easy-to-sell Advertising Book Matches. Union label. Big variety—Glamour Girls, Scenics, Hillbillies. Powerhouse selling kit Free. Steady repeat business. No experience necessary. Superior Match Co., Dept. F-1057, 7528 S. Greenwood, Chicago 19.

MONEY-MAKING OPPORTUNITY! Take big profit orders for world famous Patented Varieties Fruit Trees. Also Flowering Shrubs, Roses, Vines. Big Sales outfit Free. Stark Bro's, Desk 30108, Louisiana, Mo.

GOLDMINE OF 600 money makers. Copy free. Specialty Salesman Magazine, Desk 7-B, 307 N. Michigan, Chicago 1.

WILL YOU wear new suits and topcoats without one penny cost and agree to show them to friends? You can make up to $30.00 in a day even in spare time without canvassing. Stone-Field, 532 South Throop Street, Dept. P-926, Chicago 7, Ill.

AD MATCHES! Sell amazing designs—10, 20, 30, 40 and 240-light book matches. Bigger spot cash commissions; every business a prospect. Low prices for high quality. Repeats. Start without experience; men, women; full, part time. Buy nothing! Sales kit furnished. Match Corp., Dept. MI-78, Chicago 32, Ill.

MI Classified Advertisements

GET NEW Shirt Outfit Free: make $90.00 weekly on 5 average orders a day. Famous quality Made-To-Measure dress and sport shirts at $3.95 up sell fast to all men. No experience needed. Full or part time. Write: Packard Shirt Co., Dept. 510, Terre Haute, Ind.

1000 SELLING JOBS Available! Big earnings! George Lucas, Bellevue, Wash.

• • • BUSINESS OPPORTUNITIES

WANTED: HOME producers, to be subcontractors. Cast plastic products for manufacturers in our Clearing House Service. Thousands of easily-made items required. Cash in at home, without previous experience. Plastic Service Associates, Dept. 10-MI, East Boston 28, Mass.

BUY AT Wholesale Prices! Tremendous Savings! Resell to friends, neighbors, everyone at Big Profits. Enormous selection of highly desirable, nationally advertised merchandise — Benrus, Dormeyer, Oster, Cummins, Brook Park, Richelieu, Remington, Konson, Pepperell, Farberware. Electrical appliances, cookware, housewares, watches, jewelry, rings, dry goods, clothing, luggage, tools, sporting goods, toys, gifts, etc. Free 1958 color catalog showing 1001 in-demand items. Write today. Merit Home Products, Dept. M-10, 107 Manhattan Avenue, Brooklyn 6, N. Y.

$70 WEEKLY—HOME, spare time. Simplified mail bookkeeping. Immediate income—easy! Auditax, 34757E, Los Angeles 34.

FREE FOLIO "$5,000-$45,000, Unlimited Vacations." No merchandise. Unknown! Work home, sparetime. Haylings, Carlsbad, Calif.

YOUR OWN name brand business. No investment; no inventory. Part time or full time. Sell famous brands of appliances, housewares, silverware, radios, vacuum cleaners, lamps, tools, clocks, watches, jewelry, etc., etc., over 1,000 items. Join thousands of successful independent dealers. Send for Free catalog and dealer price list. H. B. Davis Corp., Dept. 16, 145 W. 15 St., New York City.

BUY NATIONALLY Advertised Merchandise Direct. For self or resale. 25 free catalogs. Also new products, tested mail sellers. Free details. Associated Wholesalers, Box 52-M, Burlington, Iowa.

BRUSH PLATING Outfits for plating articles in the home and shop. No tanks necessary, silvering mirrors, spare or full time. Free particulars. Gunmetal Co., Ave. A, Decatur, Ill.

PRINT FOR Profit At Home. Amazing new method prints colorful posters, banners, greeting cards, glassware—anything. Hundreds at time. No press needed. No art. Fantastic profits! Need representative your area immediately! Free home-business plan. Screen Print, Dept. OR, Los Angeles 61, Calif.

LEARN PHOTO-NEGATIVE (Portrait) retouching. Men, Women. $5 hour possible spare or full time at home. Easy, glamorous. Work for Photographers by mail order. Full details sent Free. Duval, 100 So. Vermont, Los Angeles 4.

T.V. SERVICEMEN needed. Good pay. We supply short practical instruction at home. Fine opportunity. Free facts your city! Write, Electronic Engineering, Dept. AC-15A, 1038 S. LaBrea, Los Angeles 19, Calif.

SAVE THOSE Newspapers! They may contain information worth real money! Inquire: Publishers-D, Cedar Hill, Texas.

MAIL ORDER—positive profit home business now possible. Advertising agency executive reveals success formula. Operate without inventory, no-risk advertising. Details free: Impact! 3407 Prospect Avenue, Dept. 3-10, Cleveland 15, Ohio.

GROW ORCHIDS at home—profitable—fascinating. Year 'round, Maine to California. No Greenhouse. Successful home grower shows you how to provide proper temperature and air conditions in any well lighted room. Full details & real Orchid Seeds Free. Orchidland, 100 So. Vermont, Los Angeles 4.

YOUR ENVELOPES addressed accurately, reasonably. Fast service. We have capable addressers in your city. Glenway System, Box 6568, Cleveland 1, Ohio.

START YOUR own subscription service. Every family buys magazines. No capital needed. We tell you how, furnish all supplies Free. Liberal commissions. Write McGregor Magazine Agency, Dept. 150, Mount Morris, Ill.

HOME-IMPORT MAIL Order Business—Import profitable items below wholesale. Experience and product investment unnecessary. Full, spare time. Famous world trader guides you. Free list "157 imports," details. Mellinger, G7510, Los Angeles 24.

11,000 NEW PROSPECTS Daily. Baby record books, shoes, albums. Sell mail-order. Use our literature. Write: No-Co-Ro, Capitola 16, Calif.

"HOW TO Start a Business" booklet sent Free! If you Know any Trade—go into business for yourself! Learn the 9 easy steps to follow. We've guided 5,000 others to success. Revealing Free Booklet yours for the asking! Write! National Business Consultants, Office OR, Los Angeles 61, Calif.

GROW EXPENSIVE Herbs For Us! Big Profits Home-Business of your own. Year around profitunity! We supply everything necessary! Send for Free Rare Seeds And Revealing Plan. National Herb Exchange, Dept. OR, Gardena, Calif.

WANT TO Make Big Money At Home? $10.00 profit in an hour possible with Invisible Mending. Make tears, holes disappear from clothing, fabrics. Steady year-round demand from cleaners, laundries, homes. Details Free. Fabricon, 6254 Broadway, Chicago 40, Ill.

PAINT SUEDE on dashboards, signs, radios, toys, figurines—anything! Amazing new discovery finish with beautiful touch and eye appeal. $10 per hour possible for spare time effort at home. Help fill the huge growing demand. Free actual sample and "150 Home-business Ideas" booklet. Coast Industries, Dept. OR, Los Angeles 61, Calif.

VENDING MACHINES—No selling. Operate a route of coin machines and earn amazing profits. 32-page catalog Free! Parkway Machine Corporation, Dept. 2, 715 Ensor St., Baltimore 2, Md.

BREED RARE Tropical Fish At Home. Earn Big Money! Learn Secrets! Help fill huge demand. Amazing Opportunity! Free Plan. Tropicals, Los Angeles 61, Calif.

FIX TYPEWRITERS. Inexpensive home course teaches Factory Secrets. Free Booklet. Write, Typewriter, Tarentum 3, Penna.

CASH FROM Sawdust (seventy methods). Tin-Cans (thirty methods). Newspapers (eighteen methods). Instructions 50¢ each. All three $1.00. Charles Company, 12-GXW, Norwood, Ohio.

BUY WHOLESALE! Over 10,000 Nationally Advertised Products. Appliances, Cameras, Sporting Goods, Housewares, Watches, Typewriters, Tools, Clothing, etc. Send Postcard today. Buy-Rite, Box 258, Hawthorne 23, N. J.

"THEY HAND Him $1001" Free Packet "Secret Journal." 919 Secrets—Plans! Work home. Publico-JJ, Oceanside, Calif.

PUBLICITY-AGENTS EARN big money! Famous expert guides anyone. Big fees placing free newspaper, magazine articles nationwide. Investment, writing talent unnecessary. Home-Business. Full, spare time. Publicity employment opportunities, too. Free Booklet reveals Secrets! Publicity Consultants, 1036 South LaBrea, Los Angeles 19.

MAKE MONEY; 47 Eye-Catching housewares, gifts. Sell like wild. Work home. Spare time. Samples sent on trial. Kristee 112, Akron, Ohio.

FREE FOLDER. "How to Make $3,000 Yearly, Sparetime, Backyard, Raising Earthworms!" Oakhaven 45, Cedar Hill, Texas.

MAKE ATTRACTIVE, durable, building plastic, easily. 800% profit. Exclusive district. Bays Laboratory, Cedaredge, Colo.

WE PAY $3.50 lb. dried. Grow Mushrooms. Cellar, shed and outdoors. Spare, full time, year round. We have 25,000 customers. Free Book. Washington Mushroom Ind., Dept. 183, 2954 Admiral Way, Seattle, Wash.

OPERATE PROFITABLE Mailorder Business! Splendid Opportunity! Details Free! Pazer Sales Company, 198-M East 52nd Street, Brooklyn 3, N. Y.

WORLD-WIDE IMPORTERS guide offers you amazing mail order profits. Free details. Holiday Publications, 2301 Grayson Road, Duluth, Minn.

CASH PAID for Boxtops! Some, 25¢! Inquire: Boxtops-AT, Cedar Hill, Texas.

OPPORTUNITY TO earn $15,000-$30,000 annually. Franchise protected. Granted on $12,500 basis. Live at home. No merchandise to buy. Selfemployed. One of most exclusive and noncompetitive Businesses in United States and Canada. Send for free explanatory booklet. Harrell & Company, Box 8-F, Louisville, Ill.

LIQUID RUBBER. Make flexible molds. Free sample. Chaney, 1907-B East Road, Jacksonville 11, Fla.

BAKE NEW Greaseless Doughnuts in kitchen. Sell stores. Free recipes. Irving Ray, 3605 South 15th, Minneapolis 7, Minn.

COLORGLAZED CONCRETE pottery made without molds. Patented method. Cemetery products, novelties, tiles. Basement leaksealing. Moneymaking projects. Booklets, details free. Men only. National Pottery, Grand Rapids, Minnesota.

YOUR NAME Sent to 1000 mailers, wholesalers, etc. Listed for our mailings each month for year 25¢. Dixie Mailers, King, N. C.

PLATE BABY Shoes, jewelry, gifts, bronze and colored pearl. Free booklet. Bronzcraft, 11029 South Vermont, Los Angeles 44.

OPERATE PROFITABLE mail order business. Splendid opportunity. For details write William Springer, Ocoee, Fla.

MAKE FLEXIBLE molds. Cast plaques, figurines. Free sample. Tooker, 1045-E Fairview, Hamilton, Ohio.

MAKE MONEY Addressing! Literature explaining, free. Cove, Box 768-K, Largo, Fla.

OPERATE EASY-TO-START, profitable home Mailorder Business! A. Mann, Woodcliff Lake, N. J.

FREE "FRANCHISE Profit Letter" describes nationwide opportunities. Exclusive distributorships, dealerships, agency operations. Write today. National Franchise Reports, MI-528, 333 North Michigan, Chicago 1.

$100.00 WEEKLY SPARE room. Raise redworms soilless way. Odorless. Charlie Morgan, Box 116H, Bushnell, Fla.

137 AMAZING IDEAS devised by successful business men, the kind you can use to sell. Complete details free. Jo-ed, Box 69-M, Glendale, Calif.

MOTEL-RESORT MANAGEMENT—Qualify for hundreds fascinating, leisurely, well-paid executive openings. Learn at home. Free booklet. Motel Managers Training School N4DC, 612 S. Serrano, Los Angeles 5.

BOOK "505 ODD, Successful Businesses" free. Work home! Pacific-23C, Oceanside, Calif.

BE A Landscape Contractor. Make $20 to $60 a day. Start with smaller projects and work into larger jobs. We show you how. Easy-to-follow Home Study Course. Write for Free Book. National Landscape Institute, Dept. MI-107-C, 310 S. Robertson Blvd., Los Angeles 48, Calif.

GROW A living Miniature Forest or orchard (only inches high), that bears tasty tiny fruit at home. Learn amazing Dwarfing secrets! Sensational Fascinating hobby, $$$$$ Home-business Opportunity. Free Details! Miniature Nurseries, Dept. OR, Gardena, Calif.

$250 WEEK CLEANING venetian blinds. Patented machinery. Free literature. Robinson, 7213E, Indianapolis 1, Ind.

COSTS 8¢—RETAILS $1.00. Automotive product. You manufacture, distribute. Wilson, Box 505-K, Princeton, W. Va.

MAKE $46 FROM Square Foot Plywood; Jigsaw necessary. Free Details. Woodet, Bridgewater, Mass.

1500 PEOPLE MAKE Money at home in one state. Free information. Mail-Towne, 89 Murray St., New York 7.

MAKE $25-$50 WEEK, clipping newspaper items for publishers. Some clippings worth $5.00 each. Particulars free. National, 81-X, Knickerbocker Station, New York.

$1,000.00 MONTHLY FOR 26 years! Read story of one home mailorder business. Details free. Charles, Box 44634, Los Angeles 44, Calif.

SELL MERCHANDISE By Mail Using Four Color Catalogs! Fifty Fast Selling Items! Orders Filled For You! Sample, Plans Free. NMMA, 618 Washington, Boston 24-M, Mass.

MAIL YOURSELF a fortune! Sensational mail item. Write. Angora House 1058-7, Springfield, Ill.

• • • HELP WANTED

EARN HIGH Pay: Jobs in South America, the Islands, USA, Europe, Canada, other foreign countries. All Trades, Mechanics, Truck Drivers, Laborers, Office Workers, Engineers, etc. Chance to travel. Fare paid if hired. Application forms. Free information. Write Dept. 109, National Employment Information, 1020 Broad, Newark, N. J.

"FOREIGN, ALASKAN, USA Jobs!!" To $1,500.00 Monthly! Million Americans Employed Overseas. Copyrighted Reports. Who to Contact for Highest Paying Jobs. Laborers—Trades—Truck Drivers—Office—Engineers, Many Others. 52 Countries—St. Lawrence Project, Spain, Latin America, Northern Projects, Europe. Year Registration-Advisory Service. Application Forms. Unconditional Money-Back Guarantee! $2.00 (Airmailed $2.25) (COD's Accepted). International Reporter, St. Louis, I-BA, Mo.

COPYRIGHTED REPORTS on best paying jobs with travel, adventure, promotions. Construction, aviation, shipping, laborers, clerical, trades, supervisory, factory, unusual opportunities. Many types of work. Skilled and unskilled. Foreign and stateside openings for men and women. Only $2.00 ($2.25 airmail), including registration-advisory service. Satisfaction guaranteed. Included absolutely free: Special reports on Alaska, Spanish airbase construction, South American opportunities and husband-wife foreign jobs. Research Services, Suite 514-MIE, Meramec Building, St. Louis 5, Mo.

• • • MONEYMAKING OPPORTUNITIES

START YOUR Own Business On Credit. Your own boss. 1527 Dealers sold $5,000 to $32,000 in 1956. We supply stocks, equipment on credit. 200 home necessities. Sales experience unnecessary. Pleasant profitable business backed by worldwide industry. Write Rawleigh's, Dept. J-U-MOM, Freeport, Ill.

$1200.00 MONTHLY PROVED! Rid homes, farms, businesses of termites, rodents, pests. New shortcut methods! Learn everything two weeks! Free success plan. A.P.C.O.A., Dept. 3A, 429 South Western, Los Angeles 5, Calif.

SELL TITANIA Gems; far more brilliant than diamonds. Catalog 10¢. Diamonite, 2420-X 77th, Oakland 5, Calif.

MEN-WOMEN! START money-making plastic laminating business at home in spare time. Material that costs 11¢ brings back $2.58. No canvassing or selling but mail orders bring in $20 a day. Write for full particulars Free. Rush name on postcard to Warner, Room CL-4-L, 1512 Jarvis, Chicago 26, Ill.

"50 NEW HOME-BUSINESS Ideas" booklet Free. Coast Industries, M10C, Los Angeles 61.

FREE FOLIO "$5,000-$45,000; Unlimited Vacations." No merchandise. Unknown! Work home—sparetime! Haylings—S16, Carlsbad, Calif.

VENDING MACHINES—No selling. Operate a route of coin machines and earn amazing profits. 32-page catalog Free! Parkway Machine Corporation, Dept. 15, 715 Ensor St., Baltimore 2, Md.

$25 WEEKLY POSSIBLE, sparetime, preparing mailings for advertisers. Temple Co., Muncie 8, Ind.

MAKE EXTRA Money. Cash commissions. Everybody buys easy-to-sell Advertising Book Matches. Union label. Big variety—Glamour Girls, Scenics, Hillbillies. Powerhouse selling kit Free. Steady repeat business. No experience necessary. Superior Match Co., Dept. FX-1057, 7528 S. Greenwood, Chicago 19.

OPERATE RESTAURANT or diner. Free booklet reveals plan. Write Restaurant Arts, 310-MO, Fremont, Ohio.

MAKE BIG Easy Profits making costume jewelry at home in spare time! Quick easy to make; easier to sell! Details Free! Don-Bar, 3511 W. Armitage, Dept. K-212, Chicago 47, Ill.

EARN $240.00 A Month at home, spare time doing only Two $5.00 Invisible Mending jobs a day. Big money paid for service that makes cuts, tears disappear from fabrics. Steady demand. Details free. Fabricon, 6256 Broadway, Chicago 40, Ill.

WANT EXTRA Cash? Send your name for money-making Christmas Card and Gift samples. Showing them to friends pays you as much as 50¢ to $1.25 profit per item—$150.00 easy! Samples on approval. $1.25 Gift offered Free! Midwest, 1113 Washington, Dept. 475-L, St. Louis 1, Mo.

DETECTIVES—EXCELLENT Opportunities. Experience unnecessary. Detective Particulars free. Write, George Wagoner, 125-J West 86th, New York 24.

ATTENTION! MEN, Women! Earn extra cash, address advertising postcards. Langdons, Box 586-M Glendale, Calif.

AUTOMOTIVE MECHANIC Let garage scrapbox provide really big service income. Limitless, self-financing free bargain creates large clientele, car owners, repairmen. Details free. Exchange, 4134 Beverly Blvd., Los Angeles 4, Calif.

START BIG-PAY business at home in spare time. No experience needed to operate little table-top machine for bronzing baby shoes. Make $5.46 profit on every pair. Full particulars Free. Send postcard to Mason, 1512 Jarvis, Room CM-4-L, Chicago 26, Ill.

CYPRESS KNEES $5.00 dozen up. Details. Gipple's Giftwares, DeLeon Springs-9, Fla.

$300. MONTHLY OPPORTUNITY mailing circulars! SE-Stein, 165 Rockaway Pkwy., Brooklyn 12, N. Y.

MAKE NEW Greaseless Doughnuts in Kitchen. Grocers buy output. Free recipes. I. Ray, 3605 South 15th, Minneapolis 7, Minn.

BUY WHOLESALE! Save 66⅔%! Appliances, Furniture, Jewelry, Toys, Sporting Goods, Tools. Free Catalogs! National Buyers Service, Box 3338GB, San Francisco.

"THEY HAND Him $100!" Free Packet "Secret Journal." 919 Secrets—Plans! Work home. Publico-JJ, Oceanside, Calif.

WE PAY $3.50 lb. dried. Grow Mushrooms. Cellar, shed and outdoors. Spare, full time, year round. We have 25,000 customers. Free Book. Washington Mushroom Ind., Dept. 184, 2954 Admiral Way, Seattle, Wash.

BUSINESS OF your own. Earning potential as high as $40,000 annually. Issued on $12,500 base. No merchandise to buy. Send for free explanatory booklet. Harrell & Company, Box 8-FF, Louisville, Ill.

MAILMAN BRINGS $150 daily. Tested, authentic, amazing mail order opportunity. Details free. Holiday Publications, 2301 Graysolon Road, Duluth, Minn.

$59.95 BABY SHOE Bronzing Machines. Mountings. Forster, 1520 Ardmore, Chicago 26.

MAKE MONEY clipping articles from your newspapers! Newscraft, MI-983-E. Main, Columbus 5, Ohio.

HOMEWORKERS WANTED painting novelties. No selling. N. Roland, Vincentown 3, N. J.

MI Classified Advertisements

$60.00 WEEKLY SPARETIME. Start home Venetian Blind Laundry. Protected Territory. Interesting information free. Burtt, 2434FE, Wichita 13, Kans.

PROFITABLE HOBBY. Free literature. Handmade Glass Figurines, 18/24-R Martha, Saratoga, Calif.

97 WAYS TO Make A Million. Start from scratch. Grow big. Others have. You might too. Dime brings details—fast. Woodward, 1221 Edgewood, Havertown 10, Penna.

MAIL LETTERS, receive $1.00 with every reply. Everything necessary, $1.00. Aldridge's, Daniels, W. Va.

TOP PRICES Paid, cutting wanted items from your newspapers. Revealing Instruction, 10¢! Economy, Box 768, Largo 4, Fla.

FREE BOOK "505 Odd, Successful Businesses." Work home! Pacific-22C, Oceanside, Calif.

$30-$60 WEEKLY SPARETIME, addressing envelopes at home. Instructions $1, refundable. Reiss, 210 Fifth Ave., Suite 1102-BM, New York 10.

HOTTEST MAIL Order Plan Ever! Sell photos, films, art novelties. Huge proven profits! Free Details! A.M.P.R.O., Dept. 3A, 429 South Western, Los Angeles 5, Calif.

MEN AND women wanted to start home business in spare time with little tabletop rubber stamp machine. Easy to earn up to $9.80 an hour without previous experience. Full particulars Free by mail. Send postcard to Roberts, 1512 Jarvis, Room CR-4-L, Chicago 26, Ill.

MAKE MONEY writing short paragraphs! No tedious study. I tell you what to write, where and how to sell; and supply list of editors buying from beginners. Many small checks add up quickly. Write to sell, right away. Send for free facts. Benson Barrett, Dept. C-78-K, 7464 Clark, Chicago 26.

PRIZE CONTESTS provide Fabulous and Confidential Home Income Opportunity! Here's How and Where to Win Your Share! Enclose Stamp! National Contest Bulletin, Box 2685-R, Miami 16, Fla.

MAKE $25-$50 WEEK, clipping newspaper items for publishers. Some clippings worth $5.00 each. Particulars free. National, 81-X, Knickerbocker Station, New York.

FREE WHOLESALE catalog. Gifts, appliances, housewares, cookware, cutlery, watches, dinnerware, silverware, jewelry, etc., discounts to 80%. Topval Corp., Lindenhurst 730, N. Y.

$1,000 MONTHLY FOR 26 years! Read story of one home mailorder business. Details free. Tri-State, Box 8008, Huntington, W. Va.

100% PROFIT. NO Investment. Stamp brings particulars, samples. Miller, Box 584, Brooklyn 1, N. Y.

• • • PROFITABLE OCCUPATIONS

WE PAY $3.50 lb. dried. Grow Mushrooms. Cellar, shed and outdoors. Spare, full time, year round. We have 25,000 customers. Free Book. Washington Mushroom Ind., Dept. 102, 2954 Admiral Way, Seattle, Wash.

INDEPENDENCE, WRITE for information, you'll be glad you did. E. Chamberlain, Box 173, Hicksville, Ohio.

VENDING MACHINES—No selling. Operate a route of coin machines and earn amazing profits. 32-page catalog Free! Parkway Machine Corporation, Dept. 16, 715 Ensor St., Baltimore 2, Md.

BUY WHOLESALE! 30-80% discounts! Appliances, Gifts, Typewriters, Tools, Watches, Sporting Goods, Jewelry, Cameras, Housewares, etc. Consolidated Distributors, Clifton 26, N. J.

FREE FOLDER. "How to Make $3,000 Yearly, Sparetime, Backyard, Raising Earthworms!" Oakhaven 3, Cedar Hill, Texas.

DETECTIVES — MAKE Secret Investigations. Interesting occupation. Write, George Wagoner, 125-J West 86th, New York 24.

$60.00 WEEKLY SPARETIME. Start home Venetian Blind Laundry. Protected Territory. Interesting information free. Burtt, 2434FG, Wichita 13, Kans.

QUICK CASH listing accounts for our collection service. Professional Protective Service, 216 West Jackson Blvd., Chicago 6.

$5,000 FROM HALF Acre growing Ginseng, crop bought. Particulars 10c. Associated Growers, Sperling, Manitoba.

• • • BARGAINS—WHOLESALE

BIG MULTICOLOR Wholesale Catalog! Housewares, appliances, clothing, silverware, cookware, luggage, binoculars, radios, phonographs, cameras, recorders, projectors, typewriters, shavers, sporting goods, toys, tools, sewing machines, watches, jewelry. Name brands. Huge discounts. Postcard: Selbyco, Decatur 137, Ill.

TELEPHONES — OLD wall telephones, working order. Oak cabinets, hand crank for ringing; $5 each. f.o.b. Telephone Co., Turtle Lake, Wisc.

AUTOS WHOLESALE, $300 to $1000 off. Your own car free. Guaranteed information $1. Foster, Box 233-M, Higgins, Texas.

SAVE TO 80%, 800,000 items. Clothing, groceries, fuel, car costs. Free details. Holiday Publications, 2301 Graysolon Road, Duluth, Minn.

BUY WHOLESALE! Over 10,000 Nationally Advertised Products. Appliances, Cameras, Sporting Goods, Housewares, Watches, Typewriters, Tools, Clothing, etc. Send Postcard Today. Buy-Rite, Box 258, Hawthorne 24, N. J.

WAR SURPLUS Bargains! New government releases arrive constantly. Save Up To 80%. Blankets, boots, cots, tents, wearing apparel, etc. Send for Free War Surplus Catalog. Sioux Falls Surplus Store, Sioux Falls, S. D.

BEAUTIFUL NEW Import. Perfect mail order or retail item. Details and sample $2.00. Ideas, Unlimited, 1064 D Street, San Bernardino, Calif.

IT'S SMART To Shop By Mail. Select gifts of nationally-advertised merchandise from your armchair at low discount prices. Watches, jewelry, appliances, luggage, home furnishings, sporting goods, tools, etc. Write today for big Free Catalog. Midway House, Box 25, Rockford, Ill.

PHONOGRAPH RECORDS cheap, postpaid. Catalogue. Paramount, Box 242-J, Williamsport, Penna.

OLD ORIGINAL Crank Telephones—Wiring Diagrams — Parts — Inter-Comms. Catalog 10¢. Telephone Company, Turtle Lake, Wisc.

BUY WHOLESALE! Discounts to 80%! Appliances, Tools, Typewriters, Clothing, Watches, Housewares! Midwest, IM-156, Pontiac, Ill.

ELECTRIC GUITARS, amplifiers, wholesale, free catalog. Carvin MIW, Covina, Calif.

• • • CHEMICALS & SUPPLIES

NEW IDEA chemical & apparatus outfits for home experimenting. Certified chemicals in small quantities. Catalog 25¢. John H. Winn, 124x West 23 Street, New York 11, N. Y.

• • • FORMULAS, PLANS

LATEST—BEST Formulas. Genuine Moneymakers. Free literature. Kemistry, Park Ridge 40, Ill.

FREE FORMULA Catalog. Anything analyzed reasonable. Western Chemical, Salem, Ore.

REAL MANUFACTURING Formulas. Lists free. W. Cummings, 228 Gordon, Syracuse 4, N. Y.

ANY FORMULA $3.00. Catalog—Mfg. Treatise 10c. J. Belfort, 192 N. Clark, Chicago 1.

• • • OF INTEREST TO WOMEN

FREE—BIG New Wholesale Catalog! Up to 50% saving for you, family, friends on nationally-known gifts, jewelry, toys, appliances, Christmas cards, etc. Also make money selling part time! Write: Evergreen Studios, Box 846-P, Chicago 42, Ill.

60% PROFIT ON Cosmetics—famous nationally advertised Hollywood cosmetics pay 60%. Make $25.00 day up! Hire others. For free samples, details, write Studio Girl, Glendale, Calif., Dept. 50710G.

"8 MISTAKES PARENTS Make." Every parent should have this new book about child training. It is free; no obligation. Simply address Parents Association, Dept. 9410, Pleasant Hill, Ohio.

STAMPED LINENS For Embroidery Or Painting. Buy direct from manufacturer and save. Send for Free catalog. Merribee, 16 West 19th St., Dept. 537, New York 11, N. Y.

$200. MONTHLY POSSIBLE, Sewing Babywear! No house selling! Send stamped, addressed envelope. Cuties, Warsaw 58, Ind.

MAKE $25 TO $35 weekly addressing envelopes. Our instructions reveal how. Glenway, Box 6568, Cleveland 1, Ohio.

• • • GEIGER COUNTERS, TREASURE FINDERS

TREASURE, METAL-MINERAL Detectors, M-Scope. Used worldwide for Treasure Hunting. Geiger, Scintillation Counters, Mineralights. From $14.75. Guaranteed. Time Payment Plan. Free Treasure, Uranium information. Free Catalog. Fisher Research Lab., Inc., Dept. C-4, Palo Alto, Calif.

FIND LOST or hidden treasure with new, improved metal detector. No ground pick-up. Also, underwater metal detector. Free literature. Gardiner Electronics, Dept. 3, 2545 E. Indian School Road, Phoenix, Ariz.

FREE—16-PAGE Manual from world's largest mfr. of Prospecting Equipment. Detectron Corporation, 5528 Vineland, North Hollywood, Calif.

LITHIUM—THE wonder metal. Free booklet describes prospecting information, uses, etc. Nu Age, Box 142, North Battleford, Sask, Canada.

TREASURE LOCATOR plans, Free literature. Howe, 811 Kansas, Atchison, Kans.

• • • OFFICE SUPPLIES

TYPEWRITERS REBUILT, Reconditioned $25.00 Up. Catalog Free. DixieGraph, King, N. C.

• • • PRINTING, MULTIGRAPHING, MIMEOGRAPHING

OPERATE HOME Letter Shop Instructions $2. Stamp brings details. General Sales, 336 Roosevelt St., Creve Coeur, Ill.

FREE PRINTING price list. John Peper, Box 822, Chattanooga 1, Tenn.

FREE CATALOG. Business, personal printing. D M Press, Sebastopol, Calif.

BUSINESS PRINTING. Samples, Prices Free. Howprint, 723-L Eunice, Webster Groves 19, Mo.

200 BUSINESS CARDS, 4 lines $1.60. Lewis', 114 Flowers Ave., Sharon, Penna.

• • • PRINTING OUTFITS & SUPPLIES

PRINTING OUTFITS, type, supplies. Send dime for illustrated supply book and samples. Kelsey, Inc., H-57, Meriden, Conn.

MAKE YOUR Own self-molding rubber stamps and printing cuts. Plexirubber, Argyle 3, Wisc.

• • • RUBBER STAMPS & MARKING DEVICES

THREE LINE name and address, on cushion base moulding mount stamp $1.00. Rubber Stamp Service, 109 N. Hyatt St., Tipp City, Ohio.

• • • STAMP COLLECTING

FREE EVERYTHING Free—Mammoth collection cataloguing $20.00 also 50 valuable complete sets. 54 Gigantic multicolor Commemoratives. All volumes Scott's International Albums, Catalogues, even Master Global Albums, Free when you buy our sensational foreign approvals. Don't write unless you intend to buy. Bargain Stamps, Redlands, Calif.

"WOW! 135 ALL Different Germany 10¢." Big collection includes old Zeppelins, Semi-Postals, Airmails, High Values, Giant and Midget-sized Stamps. Extral Complete bargain catalog, free booklet. Approvals. Jamestown Stamp Co., Dept. A10MIC, Jamestown, N. Y.

200 WORLDWIDE 25¢ PLUS surprise packet. Packet list free. Econopackets, Box 168, Riverside, Calif.

UNITED STATES commemorative collection containing 33 different—10c. Approvals. White, 516-M Avenue L, Brooklyn 30, New York.

WEIRD DIAMOND Shape Coffee Stamps. Lovely Flower Triangle! First American big commemorative. Greenland, Idol Dancer, etc. Free with approvals. Capital Stamp Co., Ferrysburg 5, Mich.

225 STAMPS FOR Only 10c! This mammoth value includes Airmails, Pictorials; stamps from strange Countries cataloguing up to 25c each! Also approvals. Mystic Stamp Company, Camden 30, N. Y.

STAMP FINDER, World Map and Encyclopedia of stamp issuing countries only 5¢. Approvals. Goliath Company, Bethlehem K4, N. H.

FREE! 107 BRITISH Colony Stamps. All different, from Britain's farflung colonial empire. Catalog value $2.50. Free Stamp Magazine, Approvals. Send 10¢ for handling. Act now! Niagara Stamp Co., St. Catharines 73, Ontario.

TWO $5.00 U. S. stamps plus 20 different 10c with U. S. approvals. Irwin Stamp Co., Box 1118, Brooklyn 30, N. Y.

FREE! AMAZING List! Two Feet Long! All Countries! Stampmart Company, Hartford 1, Conn.

WORLDWIDE, 50 ALL different, absolutely free, just to introduce our incomparable approvals. Kent Stamp Company, GPO Box 87, Brooklyn, N. Y.

FREE-MINT BRITISH Colonies from North Borneo, Caymans, Seychelles, Dominica, Papua, New Guinea, Sarawak, Brunei. Free with approvals. Viking, Great Neck 4, N. Y.

103 FOREIGN STAMPS, including Pakistan, Scandinavia, Newfoundland, Australia, Africa, Russia, Japan, China, Oddities, Rarities. Only With Approvals. Enclose 10¢ for handling. Lincoin Stamp Company, St. Catharine's 320, Ontario.

FREE SAMPLE stamp newspaper, information on collecting, special lists. Approvals. Littleton Stamp Co., Littleton A4, N. H.

TERRIFIC STAMP Bargain! Israel—Iceland—Vatican Assortment—plus exotic triangle set—Also fabulous British Colonial Accumulation — Plus large stamp book—All four offers free—Send 10¢ to cover postage. Empire Stamp Corp., Dept. MI, Toronto, Can.

OLD SCARCE U. S. Seconds On Approval. Slight imperfections, lowest prices. Hernfelder, Clintonhill Sta., Newark 8, N. J.

ECONOMICAL ½-3¢ APPROVALS. 33,000 varieties. Dresel, Box 128-B, West Englewood, N. J.

100 OLD U. S. stamps between 1861 and 1935 only $1.00. Roush Stamps, 51 Chestnut, Mansfield, Ohio.

70 DIFFERENT U. S., including 35 Commemoratives, 25¢. No approvals. Seidenberg, Appleton, Wisc.

50 SOUTH AMERICAN Free with colorful approvals. Superior Stamps, Box 53-M, Cathedral Station, New York 25, N. Y.

FREE! 50 DIFFERENT British Colonies to approval applicants. Pan-American, Box 24, Coconut Grove, Miami 33, Fla.

MONACO NUDES 10c approvals. Barricks, 1600 Seward #320, Detroit 6, Mich.

GENERAL FOREIGN, Cataloging 8¢ up, priced right, I pay postage. Marty, Box 112, Mohawk, N. Y.

POPE TRIANGLE!! Olympic Triangle! Timor, Greenland, 28 others, 3¢. Approvals. Iroquois, Box 849, Lake Forest, Ill.

ROOSEVELT DIAMOND, Pope Triangle, Greenland, Angola, 51 others. 5¢. Approvals. Longhorn, Box 3068-C, Lubbock, Texas.

FIRST U.N. Set. Among World's Prettiest. Only 10¢. Approvals. Welles, Box 1246-L, NYC 8.

WINGED WHEEL set plus 50 different free with interesting approvals. (5¢ handling) Stamp Imports, Gp. B-Bx. 15 Peterborough, Ontario, Can.

200 DIFFERENT BELGIUM 50¢—Penny approvals included. Reed, Box 980, Chicago 90, Ill.

START YOUR own Stamp Business. Send for Free circular. Donald Shepard, Box 1147, Chicago 90.

WORLD'S BIGGEST Stamp Bargain! 1000 Different Worldwide $1.00. Universal, Box 6, Kenosha 10, Wisc.

FREE! GIANT catalog offering thousands of bargains. Sent with beautiful approvals. Jamestown Stamp Co., Dept. E10MIC, Jamestown, N. Y.

UNBEATABLE! OLD U.S., Famous Americans, Flags, Presidents, Airmails, Commemoratives plus Premium for 10¢ handling. Metropolitan Stamps, Box 312UM, Jackson Heights, N. Y.

FREE—50 DIFFERENT stamps with approvals. Peebles, 424 Church, Athens, Penna.

MAMMOTH MULTICOLOR triangles picturing birds, flowers 10¢ with approvals. Stamps, Box 628, Redlands, Calif.

EXTRAORDINARY ANTARCTIC Set free with approvals. Variety Stamps, 57-A Circuit, Newton Highlands 61, Mass.

25 DIFFERENT COMMEMORATIVES. 1893 up 10¢. U. S. Approvals. K & B, Box 70, Brooklyn 23, N. Y.

• • • OLD STAMPS WANTED

I WILL Pay $100.00 each for 1924 1c green Franklin stamps, rotary perforated eleven (up to $1,000.00 each unused). Send 20c for large illustrated folders showing Amazing prices paid for old stamps and coins. Baker-Stamps, 65-MI-107, Oradell, N. J.

• • • RARE COINS

SAN FRANCISCO Mint Closed! Made only cents and dimes in 1955. In short supply and great demand. One each, brilliant uncirculated, for 25¢. Free coin lists with order. Bryson Coin Company, 612 White, Toledo 5, Ohio.

COINS FROM Formosa, Vatican, etc., plus foreign banknote, 10¢ with coin approvals. Littleton Coin Co., Littleton 54, N. H.

LINCOLN, INDIAN Cents, all dates. Indian Cent and complete pricelist 25¢. Penny Mart, MH-10, Box 629, Chicago 90.

MORGAN DOLLARS; 1878-87-90-91-97 S, $2.00 ea. Coin Catalogue 25¢. Shultz, Salt Lake City 10, Utah.

BRILLIANT UNCIRCULATED coin free. Send postcard. W. Clair Edwards, 16751 Ashton Road, Detroit 19, Mich.

TEN DIFFERENT Indian Cents and Coin List only $1.00. Pounds, Box 231A, North Wales, Penna.

COMPLETE UNITED States coin bargain lists, Indianhead cent, 10¢. Economy Sales Company, Mansfield 3, Mass.

SWITZERLAND, HONDURAS, Finland, Austria's Coins—All 10c. Jolie, Roslyn Heights, N. Y.

LINCOLN, INDIAN Cents, all dates. 1955-S cent, uncirculated, and complete pricelist 25¢. Penny Mart, MH-10, Box 629, Chicago 90.

10 MIXED FOREIGN Coin-Bills: 10¢. Dwight Musser, Dunbar, W. Va.

• • • INDIAN CURIOS, RELICS, ANTIQUES

TWO BIRDPOINTS or Two Spears $1.00. Palmer, 435 Washington Road, McKeesport, Penna.

THE FABULOUS Pecos Diamond. Assorted sizes. Five for One Dollar. Box 1228, Roswell, N. M.

• • • HOBBIES & COLLECTIONS

CIVIL WAR military miniatures. Complete line infantry, cavalry, artillery illustrated catalog 35¢. Bussler Miniatures, Dept. H, 40 Howe St., Quincy 69, Mass.

FREE "DO-IT-YOURSELF" Leathercraft Catalog. Tandy Leather Company, Box 791-A23, Fort Worth, Texas.

• • • EDUCATION & INSTRUCTION

WANT A Diesel job? New opportunities to increase income. Higher pay. More money. We can help you qualify. Tools. Shop method home training. Write today! Diesel Tractor, Heavy Equipment Division, Interstate Training Service, Dept. B-4, Portland 13, Ore.

PIANO TUNING Pays. Big money in spare time. Learn at home in 30 days. No musical knowledge necessary. Phonograph, records, tools and instructions furnished. Personal instructions available. Free catalog. Capital Tuning School, 16 Southwest Second, Fort Lauderdale, Fla.

USED CORRESPONDENCE Courses and Books sold and rented. Money back guarantee. Catalog Free. (Courses bought.) Lee Mountain, Pisgah, Ala.

PHYSICAL THERAPY and Massage. We train you at home. Earn big profits from your own private practice or work with hospitals and doctors. Free catalog. National Institute, Desk 2, 159 East Ontario, Chicago III.

COMPLETE YOUR High School at home in spare time with 60-year-old school. Texts furnished. No classes. Diploma. Information booklet free. American School, Dept. X728, Drexel at 58th, Chicago 37, Ill.

BOOKKEEPERS! INCREASE your earnings! Operate your own simplified "Dollar-A-Week" Bookkeeping and Tax Service. Full or spare time. Details Free. No obligation. Ellis, Box 202, Cedar Grove, N. C.

HIGH SCHOOL Diploma at Home. Licensed teachers—approved materials. Southern States Academy, Box 144-LX, Station E, Atlanta, Ga.

REFRIGERATION, AIR conditioning. Extension course. Free booklet. Mechanics School, 11029-MR South Vermont, Los Angeles 44.

FOR "HOW To Sell" Send $.75. Rodo Publishing, Box 97, Delanco, N. J.

FINISH HIGH School at home, spare time. No classes. Diploma awarded. Write for Free catalog. Wayne School, Catalog HAJ-71, 2527 Sheffield, Chicago 14.

ENGINEERING DEGREES earned through Home Study. Pacific International University, 5719-F Santa Monica Boulevard, Hollywood 38, Calif.

HELP YOURSELF to abundant living. Our courses have aided students to richer, fuller lives. Learn secret of contentment, happiness. Earn degrees Ps.D., Ms.D. Write for free book. College of Universal Truth (Correspondence School), 23-F E. Jackson, Chicago.

LEARN REAL Estate—Study at home. Send for free catalogue. Midwest School of Real Estate, 68 North Chicago Street, Joliet, Ill.

LEARN WHILE Asleep! Details free. Research Association, Box 610-W, Omaha.

$1,000 MONTHLY POSSIBLE in collection agency business. Free details. Write Cole Associates, Syracuse 2-M, N. Y.

60 PAGE BOOKLETS! "Electricity," "Radio," "Physics," "Chemistry," "Relativity," "Astronomy," "Mathematics," "Light," "Heat," "Scientific Oddities." 10¢ each. Franks, 3121 South Racine, Chicago 8.

DIPLOMA, DEGREE correspondence courses, Engineering, Nursing Science. Aureap, Central Valley, N. Y.

ANALYZE HANDWRITING! Complete booklet tells you how. 25¢. Ben Kandel, 202-MI Jefferson, Eatonton, Ga.

LEARN MINERALOGY at home. Diploma course. Fortunes now being made in uranium and other minerals. Free catalog. Mineral Science Institute, Desk 17, 159 East Ontario, Chicago 11.

WANT STRONG masculine voice? Send for Free booklet. Prefect Voice Institute, 210 South Clinton, Studio 2MT-3, Chicago 6.

TATTOOING OUTFITS, licensed course. Brochures 25¢. Zeis, 728 Leslie, Rockford, Ill.

• • • BOOKS, PERIODICALS

WE PAY big cash prices for Old Books, Bibles, Deeds, Letters, Newspapers, Autographs, etc.! Large Informative Folder 25¢. Book Mart, MI-983-E, Main, Columbus 5, Ohio.

BOOKHUNTERS! ALL Subjects. Send Wants! Jaher Book Service, 183-M Hazelwood Drive, Westbury, N. Y.

BRITISH BOOK Bargain—Any Subject. Catalogue free. Transbooks, Box A1-MO, Wantagh, N. Y.

BOOKLETS—$1.00. HOW to sell by mail order. 1957 Business Cycle Advertising Chart. Economist, 343 Fairfield Avenue, Bridgeport, Conn.

BOOKHUNTERS! SCARCE, rare miscellaneous books supplied. Atlantic Book Service, 10A Cedar Charlestown 29, Mass.

SAMPLE: 30¢ COPY of "The Aquarium." Send 10¢ to 12th and Cherry Sts., Philadelphia 7, Penna.

• • • RADIO, TELEVISION, HI-FI SUPPLIES & INSTRUCTIONS

FREE 404-PAGE 1958 Radio-TV-Hi-Fi and Electronics Catalog! World's largest stocks, lowest prices. Everything for experimenters, builders, amateurs, servicemen. Latest money-saving build-your-own Knight-Kits, Hi-Fi, phonos, recorders, Public Address, TV accessories. Thousands of parts, tubes, test instruments, tools and books. Write for Free copy! Allied Radio Corp., 100 N. Western Ave., Dept. 45-K7, Chicago 80, Ill.

GOVERNMENT SURPLUS Radios, Geiger Counters, Mine Detectors. Picture list 5¢. Meshna, Malden 48, Mass.

RECORDERS, HI-FI. Free catalogue. Carlston, 215 E. 88 St., N. Y. C. 28.

RADIO COURSE only $22.95. Includes all tubes, parts, tools, instructions. Write for full information. Progressive "Edu-Kits," Inc., Dept. 48F, 497 Union Ave., Brooklyn 11, N. Y.

P. A. SYSTEM from any radio; plans $1.00. Smith Electronic's, DMI, East St., Skaneateles, N. Y.

TOP QUALITY tubes, new, individually boxed, terrific savings to 80%, 1000 different types, transmitting, special purpose tubes, write Bell Electronics, 40 Canal, New York City 2.

MAKE MONEY in Electronics, Course, parts tools $30.00. Literature free. Stegotronics, Colchester, Conn.

• • • MUSICAL INSTRUCTION

SONGWRITERS: RECORDING company wants new songs. Royalty basis. National sales, promotion if selected. No charge for melodies. Send material. Music Makers, Dept. B-31, Box 2507, Hollywood, Calif.

INTERESTED IN a songwriting career? Free details. Johnnie Martinelli, 1182 Broadway, New York City.

POEMS WANTED for new songs. Send poems. Immediate consideration. Crown Music Company, 49-M West 32 Street, New York City.

SONGS INTO $$$$$$$$$—Share $29 million dollars yearly for New Songwriters songpoets. Any subject, songs composed, published, promoted by largest firm. Information, appraisal Free. Send Nordyke Publishers, 6000 Sunset, Hollywood 28M, Calif.

SONG POEMS wanted to be set to music. Send poems. McNeil, Master of Music, 510 MI South Alexandria, Los Angeles, Calif.

SONGPOEMS AND lyrics wanted. Mail to: TinPan Alley, Inc., 1650 Broadway, New York 19, N. Y.

• • • MUSICAL INSTRUMENTS

1957 ACCORDIONS—WHOLESALE. Free catalog. American Accordion Center, Dept. MI-10, 5329 Belmont, Chicago, Ill.

ACCORDIONS—SAVE 50%! Free trial. Trades accepted. Free Catalog. Accordions, Dept. 107-MX, 2003 Chicago, Chicago 22.

ELECTRIC GUITARS, amplifiers, wholesale, free catalog. Carvin MIM, Covina, Calif.

• • • AUTHOR SERVICE

WANT YOUR Book Published? Learn how we publish, advertise, promote, distribute. Many successes. Free booklet MX. Vantage, 120 West 31, New York.

WANTED: BOOK MANUSCRIPTS—all subjects considered. Greenwich Book Pub. (Atten. Mr. Zorn.) 489 Fifth Ave., N. Y. C.

• • • CARTOONING

"HOW TO Make Money With Simple Cartoons"—A book everyone who likes to draw should have. It is free; no obligation. Simply address Cartoonists' Exchange, Dept. 3510-C, Pleasant Hill, Ohio.

PAINT SIGNS—Master die cut, outline letter patterns. Complete assortment 1½" to 12" high, prepaid $2.00. Eyerly, M-583, Newton, Iowa.

• • • MAGIC TRICKS, JOKES, PUZZLES

WORLD'S FINEST professional magic. Joker novelties. Giant illustrated catalog 10¢. Top Hat, Evanston 14, Ill.

500 TRICKS, DOUGLAS famous 120-page Catalog, only 10¢. Fastest service to magicians for 30 years. Send 10¢ today. Douglas Magicland, Dept. 3, Dallas, Texas.

3100 NOVELTIES, JOKES, tricks, gadgets, funmakers, hobbies. Big catalog 10c. Johnson-Smith, D-425, Detroit 7.

FREE DISAPPEARING Cards with Big Bargain Catalog 500 Terrific Tricks, 10¢. Wizard Ward, 60 East 42nd, New York 17.

• • • HYPNOTISM

FREE ILLUSTRATED Hypnotism, Self-hypnosis catalogue. Write: Hypnotist, 8721 Sunset Blvd., Hollywood 46M, Calif.

FREE . . . SAMPLE lesson in hypnosis. Write B. S. H., Dept. 710A, Box 6229, Baltimore 6, Md.

• • • CHALK TALKS

TRICK CHALK Stunts. Catalog 10c. Cartoonist John Balda, Oshkosh, Wis.

• • • DETECTIVES

DETECTIVES—WORK home—travel. Experience unnecessary. Detective Particulars free. Write, George Wagoner, J-125 West 86th, New York 24.

BE A detective. Write for free details. State age. National Detective Academy, 535 East 4th Street, Scottsdale, Ariz.

DETECTIVE TRAINING. Phillips Secret Service System, 1917-G North Kenneth, Chicago 39, Ill.

• • • CAMERAS & PHOTO SUPPLIES

35MM ENLARGER. Large-size plans for the construction of an enlarger expressly designed to be used with miniature negatives are now available for readers of MI. This enlarger uses a single condenser which also serves to hold the negative absolutely flat in the focal plane. For the easy-to-follow drawings, send 50 cents to the MI Reader Plan Service. Fawcett Publications, Inc., Greenwich, Conn. Ask for Plan No. P-4A.

OIL COLORING Photographs—A fascinating hobby or profitable sideline for those with artistic talent. Learn at home. Easy simplified method. Free booklet. National Photo Coloring School, 836 Diversey Parkway, Dept. 2047, Chicago 14.

FREE! FREE! Send for your new 52 page Photographic Bargain Book. Over 5,000 new and used items at huge savings. For your Free Bargain Book, write to Dept. 3110, Central Camera Co., Chicago 4, Ill.

• • • MOTION PICTURES & SOUND EQUIPMENT

FREE! BLACKHAWK'S big new 1958 sale catalog new and used 16mm., 8mm. movies; 2"x2" color slides; used 16mm. sound projectors! Biggest stock in USA! Cameras, accessories, supplies, too! Blackhawk Films, Davenport 16, Iowa.

TAPE RECORDERS, Tape. Unusual values. Free catalog. Dressner 69-02 L, 174 St., Flushing 65, New York.

FREE CATALOG. Save $$$. Fresh 8mm, 16mm B&W and color film. Home processing equipment. Superior Bulk Film Company, 442-446 No. Wells, Chicago 10.

5,000 NEW-USED 8-16MM. Silent-Sound Films. International, Dept. MI, Greenvale, N. Y.

• • • HOME MOVIES

SAVE 50%! GUARANTEED-FRESH color, b&w movie film! 8mm, 16mm. Free catalog! ESO-L, 47th Holly, Kansas City 12, Mo.

• • • AUTOMOBILES & MIDGET CARS

HUNDREDS OF automobile catalogs—Old, new and foreign; dealer books, glossy photographs, shop manuals; Free motor magazines listed by non-profit organization. Write to get on Free mailing list. Auto Maniacs 2, Stockbridge, Mich.

MI SPORTSTER. Why envy the owner of a snazzy sports car? Build one yourself with these complete instructions and plans for less than $500. To get your copy, send $3.00 to MECHANIX ILLUSTRATED Plans Service, Greenwich, Conn. Specify Plan No. JH-19.

FIBERGLAS SPORTS Bodies — Bolts on your chassis. $295. Free Literature. Almquist Engineering, Milford MI2, Penna.

• • • AUTO SUPPLIES & EQUIPMENT

FREE! NEW Catalog—Speed, Power, Mileage Increasing Equipment. Discounts! Almquist Engineering, Milford MI5, Penna.

AUTO IDENTIFICATION 35¢, 10 years, illustrated. Box 1126, Hermiston, Ore.

• • • MOTORCYCLES, BICYCLES MOTOR SCOOTERS

RECONDITIONED MOTORCYCLES and motors. Chromium accessories. Complete stock Indian parts. Expert rebuilding. Fast service. Indian Motorcycle Sales, Kansas City 27, Mo.

DOODLEBUG MOTORSCOOTER $12.50, Midget Car $25, less engines. Harley engine $5, Whizzer $5, Indian motor and propeller $6, Maytag $4. (mailorder only). Send 25c (35¢ for First Class Mailing) for 32 page Directory-Catalogue Number 79 listing these and hundreds of other bargains in motorscooters, midget cars, homebuilders parts, plans, etc. Midget Motors Directory, Athens, Ohio.

• • • AVIATION

PROPELLERS, PLANS, supplies for airboats and snowplanes. Catalog 25¢. Banks-Maxwell, Box 3301D, Ft. Worth 5, Texas.

• • • ENGINES, MOTORS

ELECTRIC MOTORS. Farm, industry. Fractional to 50 h.p. Any speed, phase, voltage, cycle. Money back guarantee. Temps Motors, 7024 Myrtle Avenue, Brooklyn 27, N. Y.

• • • MACHINERY, TOOLS & SUPPLIES

"SHARPEN CHAIN saw chains, for yourself and others." Two new sharpening tools. 17.50 and 22.50 Free Circular, dealers write. S & M Manufacturing Co., Sidney, Iowa.

POWER TOOLS, not toys. Discounts. Factory catalogs. World Tool Supply, Box 4404M, Joyfield Station, Detroit 28, Mich.

ELECTRIC PENCIL: Engraves all metals, $2.00. Beyer Mfg., 10511-G Springfield, Chicago 43.

• • • ELECTRICITY & ELECTRICAL SUPPLIES

ELECTROPLATING EQUIPMENT, Anodes, Solutions. All types, including New Electroless nickel. Baby Shoe Metallizing Equipment, Supplies. Free catalog. Hollywood Bronze Supply, Dept. B-6, 1624 East First, Los Angeles 33, Calif.

CONDUIT BENDING Guide, Plastic, pocket size 40¢. Pal-Notes, Underwood, N. D.

• • • WELDING, PLATING & SOLDERING

WELDERS, 110/220, WELDS ½", $39.50. Morris, 1070 Inner Drive, Schenectady 3, N. Y.

• • • INVENTIONS WANTED

INVENTORS: HUNDREDS of manufacturers have requested our assistance in locating marketable new products. Complete information, free. Institute of American Inventors, Dept. 50-C, 631 E Street N. W., Washington 8, D. C.

INVENTIONS WANTED. All types. Tremendous manufacturers lists. Global Marketing Service, 2420 77th, Oakland 5, Calif.

IF YOUR invention is adaptable to promoting we will contract for selling on cash or royalty. Free booklet outlines royalty rates, requirements. Kessler Corporation, 610-IW, Fremont, Ohio.

INVENTIONS WANTED: Patented or Patent Pending. 26 years' experience Promoting Inventions. National Service Bureau, 3126 Meramec, St. Louis 18, Mo.

INVENTIONS WANTED Now by my manufacturer-clients. Write Adams, Invention Broker, 80-N Wall Street, Financial District, New York City.

LET US help you sell your invention. We charge small commission. Bruce Sales Co., 2420 Greenview, New Castle, Ind.

INVENTIONS WANTED: Patented or Patent Pending. 26 years' experience Promoting Inventions. National Service Bureau, 3126 Meramec, St. Louis 18, Mo.

SUPERIOR PROMOTIONS. Patents, inventions, ideas. New, informative booklet upon request. Superior, 340-344 North Rodeo, Beverly Hills, Calif.

INVENTORS: MANUFACTURER wants new items for manufacture and distribution. Progressive Products, Inc., 8250 Commercial, La Mesa, Calif.

SELL YOUR toy ideas—addresses 500 manufacturers $3.00. Rex, Box 177, Joppa, Ill.

• • • FOR INVENTORS

INVENTORS—IF you believe you have an invention, you should find out how to protect it. The firm of McMorrow, Berman & Davidson with offices in Washington, D. C., is qualified to take the necessary steps for you. Send for copy of our Patent Booklet "How to Protect Your Invention." We will also send you an "Invention Record" form. No obligation. They are yours for the asking. McMorrow, Berman & Davidson, Registered Patent Attorneys, 138-P Victor Building, Washington 1, D. C.

INVENTION RECORD form free and "Patent Information Every Inventor Should Have." Carl Miller, Registered Patent Attorney, Woolworth Building, New York.

MI Classified Advertisements

SEARCHES—PUT your patent searches in the hands of a Registered Patent Attorney or Agent, as he qualifies to give a worth-while patentability report. Record of Invention form upon request and information on patent protection. Patrick D. Beavers, Registered Patent Attorney, 925 Columbian Building, Washington 1, D. C.

INVENTORS: NEED Help? Write Institute of American Inventors. Dept. 50T, 631 E St., N. W., Washington 4, D. C.

INVENTORS: LEARN how you can protect your invention. A specially prepared booklet "Patent Guide for the Inventor" containing detailed information concerning patent protection and procedure together with "Record of Invention" form will be promptly forwarded to you upon request—without obligation. We are registered to practice before the United States Patent Office and are prepared to serve you in the handling of your patent matters. Clarence A. O'Brien & Harvey Jacobson, Registered Patent Attorneys, 73A-K District National Building, Washington, D. C.

INVENTORS—SEND for free patent information book and inventor's record. Registered Patent Attorney, Associate Examiner, Patent Office 1922-29; Patent Attorney & Advisor, Navy Department 1930-47. Gustave Miller, 107M11 Warner Building, Washington 4, D. C.

INVENTORS—THIS firm is registered to practice before the United States Patent Office and available to assist you in the preparation and prosecution of your patent application. "Patent Protection for Inventors" booklet containing detailed information and steps to take toward patent protection sent promptly upon request. No obligation. Victor J. Evans & Co., 370-L Merlin Building, Washington 6, D. C.

INVENTIONS AND Ideas designed for your profit and patented for your best protections at low definite fees. Thirty years experience in developing and patenting inventions in U.S. and foreign countries. Patent searches with valuable report $15. Joseph O'Brien, 132 Nassau Street, New York 38, N. Y.

FREE PATENT Book. Write Blasius, 15-C Park Row, New York City.

• • • PATENT ATTORNEYS

INVENTORS: LEARN how you can protect your invention. A specially prepared booklet "Patent Guide for the Inventor" containing detailed information concerning patent protection and procedure together with "Record of Invention" form will be promptly forwarded to you upon request—without obligation. We are registered to practice before the United States Patent Office and are prepared to serve you in the handling of your patent matters. Clarence A. O'Brien & Harvey Jacobson, Registered Patent Attorneys, 738-K District National Building, Washington, D. C.

INVENTION RECORD form free and "Patent Information Every Inventor Should Have." Carl Miller, Registered Patent Attorney, Woolworth Building, New York.

INVENTORS: WHEN you are satisfied that you have invented something of value write me without obligation, for information as to what steps you should take to secure a Patent. Write Patrick D. Beavers, Registered Patent Atty., 924 Columbian Bldg., Washington 1, D. C.

INVENTORS: INFORMATION on patent procedure furnished on request, without obligation. John Randolph, Registered Patent Attorney, 210 Columbian Building, Washington 1, D. C.

INVENTORS—SEND today for instructive booklet "Patent Protection for Inventors" giving detailed patent information and outlining preliminary steps to take toward patent protection — also "Evidence of Invention" form. Victor J. Evans & Co., 371-L Merlin Building, Washington 6, D. C.

INVENTORS—IF you believe you have an invention, you should find out how to protect it. The firm of McMorrow, Berman & Davidson with offices in Washington, D. C., is qualified to take the necessary steps for you. Send for copy of our Patent Booklet "How to Protect Your Invention." We will also send you an "Invention Record" form. No obligation. They are yours for the asking. McMorrow, Berman & Davidson, Registered Patent Attorneys, 138-R Victor Building, Washington 1, D. C.

"INVENTOR'S GUIDE" and "Record of Invention" free on request. Frank M. Ledermann, Registered Patent Attorney, 154 Nassau Street, New York City 38.

C. A. SNOW & CO., 1-427 Snow Bldg., Washington 1, D. C. Registered patent attorneys. Literature mailed on request.

• • • BUILD IT YOURSELF

GRANDFATHER CLOCK movements, barometers, blueprints, kits. Wholesale catalog 25¢. Mason-Sullivan, Noroton 4, Conn.

• • • HOME CRAFTSMEN

WOODWORKING AND Cabinetmaking course for beginning and advanced home craftsmen. Only complete low-cost home training program available. Write for free booklet. Interstate Training Service, Dept. G-4, Portland 13, Ore.

FREE. NEW big illustrated catalog. Leathercraft, Metalcraft, Woodcraft kits and supplies. Complete stock, top values, latest ideas. Write today. J. C. Larson Co., Dept. 7417, 820 S. Tripp, Chicago 24.

FREE CATALOG. 1,668 Artist-drawn Patterns, Designs. Craftplans, 1321-K Wabash, Chicago 5.

NOW SCISSORS cut Christmas decorations numbers models, 3 sheets $1.00. Patterns furnished. Hobby Metal, P. O. Box 403, White Plains, N. Y.

SANTA SLEIGH reindeer $1.50, Eleven piece Nativity Scene $2.25, Santa Pack, buck, doe, fawns, $1.75; 62 patterns, six wall shelves $2.00. Strother, Box 5-P, Belington, W. Va.

101 PATTERNS OF smart gifts, novelties, shelves, action windmills. Plus, "Make Money Jig Sawing." $1.00. Mastercraft, 105X, 7041 Olcott, Chicago 31, Ill.

BEAUTIFUL KNOCKDOWN Cedar Chests. Free price list. Bedford Lumber Company, Shelbyville, Tenn.

• • • FOR THE HOME

CLOGGED CESSPOOLS, septic tanks, drains and sewers opened by miracle bacteria seedlings. Amazing results. Costs only $2.50. Order today. Money refunded if not satisfied. Andrews Laboratories, 294 Lincoln Street, Allston 34, Mass.

FOAM RUBBER Furniture Cushions—Factory seconds 50% discount. Free catalogue. Perma-Foam, 390-B Nye Avenue, Irvington, N. J.

• • • MODELS & MODEL SUPPLIES

VTO. YOU can build a flying model of this most revolutionary of all aircraft—a plane that takes off vertically. Send 50¢ for full-scale plans, plus instructions, to MI Reader Plan Service, Fawcett Place, Greenwich, Conn. Please specify VTO, Plan No. M-236.

BALSA WOOD, Model Aircraft. 40 page catalog, 25¢. Sig Co., Montezuma, Iowa.

• • • PLASTICS

LEARN PLASTICS Fabrication for spare time income. Low cost home training now available. Write for free booklet. Interstate Training Service, Dept. D-4, Portland 13, Ore.

PLASTIC SEALING, cards, photos, etc., billfold size $.50. Permanize, 330 E. Center St., Kalamazoo, Mich.

• • • FOR SPORTSMEN

GRAY CRICKETS: Special advertising material free to dealers ordering crickets. Live delivery guaranteed. Write for free literature and price list. Owen Crickets Farm V, 2818 25th, Lubbock, Texas.

SKIN DIVERS cast your weights from 2 to 5 lbs., with our molds and standard kitchen equipment. Send $3.00 for mold and instructions to Led Loy Eng., 2546 Manhattan Ave., Montrose, Calif.

SAMPLE: 25¢ COPY of "The Archers' Magazine." Send 10¢: 1200 Walnut Street, Philadelphia 7, Penna.

• • • SPORTING GOODS

FREE—GIANT 1957 Wholesale Sporting Goods Catalog. Lowest wholesale prices. Complete line of cameras, sporting goods, appliances, outdoor items. Write today, Santa Fe Distributing Co., 1321 Main St., Dept. MI, Kansas City, Mo.

5,000 BARGAINS, FIREARMS, binoculars, war relics. Catalog 50c. Smith Armory, Runnemede, N. J.

• • • BOATS, OUTBOARD MOTORS

CATAMARAN. A novel bipod mast is one of the outstanding features of King Kat, a 12-foot, all-plywood cat. The easy-to-follow-plans include large-scale drawings and full instructions for the amateur boatbuilder. Send $3.00 to MI Reader Plan Service, Fawcett Place, Greenwich, Conn., and specify Plan No. B-230, King Kat.

NEW, USED, rebuilt marine motors. Marine conversions, fittings. Free catalog. Stokes Marine Supply, Dept. 21, Coldwater, Mich.

FULL SIZE, cut-to-shape boat patterns, blueprints, 7½-38 feet. Big new 88 pg. illustrated "Build a Boat" Catalog of Naval architect-designed Cruisers, Runabouts, Skiffs, Outboard Boats, Sailing, Racing, Houseboats, 50¢. "How to Build a Boat" Booklet, $2.50. Hardware & Equipment Catalog, $2.00. Cleveland Boat Blueprint Co., Dept. A-23, Box 1651, Cleveland, Ohio.

FREE CATALOG! Boat Kits, Trailers, Fiberglas, Marine Hardware. Luger Industries, Dept. P-9, 3404 Lyndale South, Minneapolis, Minn.

MARINE CONVERSIONS for Ford and Jeep engines. Catalog 25c. Lehman Manufacturing Company, 972C Broad Street, Newark 2, N. J.

BOAT KITS, reduced prices, specify requirements. 260 Powerboat Plans, Patterns, rrames. Catalog 50c. Marinecraft, Box 161-X, Brighton, Mass.

• • • BINOCULARS, TELESCOPES, MICROSCOPES

WAR SURPLUS Bargains: Millions of lenses, instruments, telescopes, binoculars, components and complete line of astronomical telescope items. World's greatest optical market-place! Send only $1.00 for beginner's 10-lens Kit and big instruction booklet Stock 2-CB. Write for Catalog "CB," Free! Edmund Scientific Co., Barrington, N. J.

DYNASCOPE—SENSATIONAL New Reflector Telescope. Send for details. Criterion Co., Dept. DM 40, Hartford, Conn.

REFLECTOR TELESCOPE Kits $7.25 (3") to $175 (12"). Mirrors, Cells, Focusing Mounts, Tripods, Eye Systems. Anything, everything in telescopes. Free catalog. Also Ready to Use Telescopes from $25. Esco Products, Oakridge, N. J.

REFLECTING TELESCOPES, 60X completely assembled $29.75. Guaranteed observatory clearness. Free information. Skyscope, 475 Fifth Avenue, New York 17.

POWERFUL TELESCOPES completely assembled or in kit form—from $3.75 up. Free catalog, Suffolk Science, Mattituck 6, N. Y.

TRIPOD PLANS. Unless you have a sturdy support for your telescope it will be virtually useless for good observing. For best results build MI's "Quarter-Ton" Tripod. Send 75c for plans and instructions to MI Reader Plan Service, Fawcett Place, Greenwich, Conn. Please ask for Plan No. P-7.

"FREE" CATALOGUE! Thousand war surplus optical bargains. Lenses, Prisms, Telescopes, Binoculars, etc. Send $1.00 for 10 lens Hobbyist Set and Project booklet. R. Jaegers, 691 West Merrick Road, Lynbrook, N. Y.

BUILD YOUR own Reflector Telescope, Complete Kit: Mirrors, Eyepieces, Tripod, all other Accessories. Request free illustrated literature. Criterion Manufacturing, Dept. KM 34, Hartford, Conn.

MICROSCOPE CATALOG Free. Research Scientific Supplies, 126 West 23rd Street, N. Y. 11.

• • • BODY BUILDING—ATHLETIC EQUIPMENT

KARATE, DEADLY Oriental self defense. Illustrated for home training $2.00. James Lee, P. O. Box 245, Oakland 4, Calif.

SECRETS OF Bodybuilding, a book, gain weight, strength, $2.00. Bassett Bodybuilding Clinic, Hanover, N. H.

BARBELLS, EXERCISE equipment. Courses. Free booklet. Good Barbell Co., Reading, Penna.

• • • PLANTS, SHRUBS & TREES

WE PAY $3.50 lb. dried. Grow Mushrooms. Cellar, shed and outdoors. Spare, full time, year round. We have 25,000 customers. Free Book. Washington Mushroom Ind., Dept. 185, 2954 Admiral Way, Seattle, Wash.

GINSENG, GOLDENSEAL roots bring up to $14 pound. Full information. F. L. Collins, Viola, Iowa.

• • • REAL ESTATE, FARM LANDS

FLORIDA—NICE homesites, $345 at $10 monthly. Folder Free. Winston Vernor, DeLand, Fla.

10 ACRES MISSOURI land, $90. Other tracts $5.00 acre. Free list. John Calvert, Plant City, Fla.

• • • HORSE TRAINING

"HOW TO Train Horses"—A book everyone who likes horses should have. Free. No obligation. Simply address Beery School of Horsemanship, Dept. 11510, Pleasant Hill, Ohio.

TRAIN HORSES by circus methods. Write for free booklets. American Horse Training Institute, Dept. 32, Scammon, Kans.

• • • RABBITS—HAMSTERS

MAKE MONEY raising Nutria, Cavies, Rabbits, Chinchillas for us. Free information. Keeney Brothers, New Freedom, Penna.

RAISE RABBITS on $500 month plan. Free details. White's Rabbitry, Delaware, Ohio.

• • • PETS FOR SALE

WILD ANIMAL Pets—Raccoons $10.00; Armadillos $6.00; Flying Squirrels, pair $7.00. Birds, reptiles, curios. Catalog 10¢. Ray Singleton, Rattlesnake, Fla.

• • • ANIMAL BREEDING

RAISE MINK: Free booklet, pen plans, inside "secrets," feed, care. Mink are money makers. Investigate today. Lawrence Moigard, Brigham City 15, Utah.

RAISE PHEASANTS on $100 week plan. Little capital and space can make you independent. Free details. Great Central System, Columbus 16, Kans.

• • • PERSONAL

LOANS BY Mail. Borrow $50 to $500. Employed men and women, over 25, eligible. Confidential—no co-signers—no inquiries of employers or friends. Repay in monthly payments to fit your income. Supervised by State of Nebraska. Loan application sent free in plain envelope. Give occupation. American Loan Plan, City National Bldg., Dept. MI-10, Omaha, Nebr.

PAY YOUR Bills Now. Borrow $100 to $600 Cash by mail. Easy, quick, private. Repay in small monthly installments over 20 months. Your payments may run ½ less than now; have money left over to spend. Loan Order Blank mailed Free in plain envelope. Advise amount needed. State Finance Co., 323 Securities Bldg., Dept. S-227, Omaha 2, Nebr.

"HOW CAN I Find Out?" You can! Information discreetly developed. Any matter, person, problem, anywhere. Worldwide. Officially licensed, bonded service. Established 1922. Reasonable. Confidential. William Herman, 170 Broadway, New York.

LEARN WHILE Asleep! Details free. Research Association, Box 610-W, Omaha.

BORROW MONEY By Mail. $100-$600. Anywhere. Air Mail Service. Postal Finance, 200 Keeline Building, Dept. 621T, Omaha 2, Nebr.

MEXICAN LAW. Attorney Ceniceros, Apartado 79, C. Juárez, Chih, Méx.

• • • JEWELRY

COSTUME JEWELRY Supplies, Settings, Rhinestones, etc. 88 page illustrated catalog. 25¢. Milady, Box 1328, G.P.O., N.Y.C.

RHINESTONES, NEW interesting jewelry settings. Illustrated Catalogue 10¢. Hom-Art MII, Box 4035, Hammond, Ind.

• • • REMAIL SERVICE

SECRET MAIL Receiving Forwarding System. $3 Month. Hedgpeth, Box 830, Alhambra 17, Calif.

• • • MINERALS, PRECIOUS STONES

CUT GEMS, make jewelry. Learn easily for profit or fun. Beautiful 100 page magazine tells how; where to get supplies, fascinating! Sample 25¢ or request Free literature. Lapidary Journal, Del Mar 6, Calif.

• • • MISCELLANEOUS

BUY WHOLESALE! Over 10,000 Nationally Advertised Products. Appliances, Cameras, Sporting Goods, Housewares, Watches, Typewriters, Tools, Clothing, etc. Send Postcard Today. Buy-Rite, Box 258, Hawthorne 21, N. J.

FREE WHOLESALE Catalogs! 250,000 Products . . . Tremendous Discounts! Econ-O-Mart, Whippany 8, N. J.

WE PAY $3.50 lb. dried. Grow Mushrooms. Cellar, shed and outdoors. Spare, full time, year round. We have 25,000 customers. Free Book. Washington Mushroom Ind., Dept. 186, 2954 Admiral Way, Seattle, Wash.

MARSHMALLOWS AND Marshmallow frosting. Make your own from kitchen tested recipes, $1.00. Korner Candy, P. O. Box 3646, Loring Station, Minneapolis 3, Minn.

INTERNATIONAL PENFRIEND Service. All ages, interests. Details—10¢. 4586 Jessica, Los Angeles 65.

200 COMBS—ASSORTED colors—Plastic container $3.00—Catalog. Burke Associates, Manchester 4, Mass.

TRANSISTOR KITS, parts. Free information. Transit, Box 15-J9, Alden Manor, N. Y.

• • • OLD GOLD WANTED

CASH FOR old gold, old jewelry, watches, diamonds, silver, gold teeth, etc. 100% Full Value Paid Immediately. Satisfaction guaranteed. Mail articles today. Information Free. Established 1900. Chicago Gold Smelting & Refining Co., 6 E. Monroe St., Dept. 156, Chicago 3, Ill.

HIGHEST CASH For Old Gold, Broken Jewelry. Gold Teeth, Watches, Diamonds, Silverware, Spectacles, Platinum, Mercury. Free information. Rose Refiners, Heyworth Bldg., Chicago 2.

• • • WATCHES, WATCHMAKING, CLOCKS

WATCHMAKERS'-JEWELERS'-MACHINISTS' TOOLS. Watchmaking Course. Catalog 25¢. Bengali, Culver City, Calif.

WATCH AND clock repairing books. Free catalog. North American, 2320-CL Milwaukee, Chicago 47, Ill.

USED AND new watches $2 up. Free List. Southern Watches, Gray 3, Ga.

GUNS

DERRINGER

START COLLECTING NOW!

- ☐ Derringer
- ☐ German P-38
- ☐ Colt Cobra .38
- ☐ German Luger
- ☐ German Mauser
- ☐ Spanish Mosley
- ☐ Russian Tokarev
- ☐ Japanese Nambu
- ☐ Italian Brevettata
- ☐ Frontier .44 Colt
- ☐ Belgium Automatic
- ☐ Colt .45 Automatic
- ☐ Czechoslovakian Pistol
- ☐ S & W .38 Police Special
- ☐ Iver Johnson Cadet 55S
- ☐ Mauser 7.65mm Automatic

$3.00 EACH
POSTPAID
FOLDER, 10c

AUTHENTIC REPLICAS
Reproduced in Actual Size, Design and Balance. Made of Solid Cast Aluminum. Finished in Gun-metal Black.

©1957

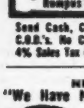
• Re-man trophies for Rumpus Room, Cabin, Etc. •

LYTLE NOVELTY CO.

Send Cash, Check or M.O. No C.O.D.'s. No Canada Orders. Add 4% Sales Tax in California.

2056-Q-10 Fashion Avenue, Long Beach 10, California

24 YEARS AT THIS ADDRESS
NEARLY EVERYONE BUYS FROM STANDARD.
"We Have No Rent to Pay." That is Why We Can Sell For Less



Our entire stock of very slightly worn. EXTRA MILEAGE TOP GRADE Tires. (Written Insurance Guarantee). SEND AD

EVERYBODY MAY DEDUCT 10% off ON EVERY TIRE

Free—Tube With Each Passenger Tire

FREE If you buy 2 or more Passenger 4-ply tires, WE GIVE ONE tire FREE, on each order. Does not include W.W. or Truck Tires, or Snow Tires. Send this ad.

12 Mos. WRITTEN GUARANTEE			12 Mos. WRITTEN GUARANTEE		
600x16(6)	$6.96	800x15	$6.26	700x17	$10.56
650x16(6)	7.16	820x15	6.26	750x17	13.06
670x15	5.26	700x15(6)	9.16	700x20	12.16
710x15	5.36	750x16(6)	9.96	750x20(6)	12.96
760x15	5.86	750x14	10.06	750x20(10)	14.96
ALL WHITE WALLS $1.00 EXTRA			WRITE FOR SIZES NOT LISTED		

825x20	$18.96	900x20	18.96
1000x20	18.96	1100x20	20.56
1000x22	21.06		

"EXTRA SPECIAL" Fully Guaranteed all size 4-ply pass. FREE TIRE with 2 or more of these —W. W. $1.00 Extra Factory Tested Tube given. GIANT TIRE SALE. $0.76

SNOW TIRES $9.56 EA. ORDER ANY 4 PLY PASSENGER SIZE BLACK WALL

Thousands of tires shipped all over the U.S.A. All tires shipped F.O.B. Phila. Send Check or M.O. with this ad. Dept. 6. No C.O.D.

STANDARD, 834 North Broad St., Philadelphia 30, Pa.

NEW MAGIC RADIO WALKIE TALKIE!

YOUR OWN POCKET SIZE RADIO STATION!
BROADCASTS TO ANY HOME OR CAR RADIO WITHOUT WIRES OR HOOKUPS! Wt. only 5 oz. Size only 1½"x2½"x 4½". Built-in telescoping antenna. Powerful Transistor—sensitive microphone, frequency setter, break-in switch! Runs for weeks on self-contained flashlight batteries. Durable plastic case. With this Radio Talkie you CAN TALK TO YOUR FRIENDS UP TO A BLOCK OR MORE AWAY! Talk up to 1 mile or more between two automobiles.—INSTANT OPERATION. Just push button to talk! No license needed. Uses inductive field magnetic radiation. Useful and real fun in a million ways! GUARANTEED TO WORK. 1 YEAR SERVICE GUARANTEE. SEND ONLY $3.00 (cash, ck, mo) and pay postman $9.99 COD postage or send $11.99 for prepaid delivery. COMPLETE READY TO OPERATE with instructions and hundreds of ways and tricks for broadcasts thru any radio you desire. Price will go up soon, so get your NEW POWERFUL RADI-VOX WALKIE TALKIE NOW. Available only from:
WESTERN RADIO Dept. RMI-10 KEARNEY, NEBR.

SAVE 75% ON WORK CLOTHES!

Terrific values you've got to see to believe!

SHIRTS.....4 for $2.99.....79c
Tho used, they're sterilized and ready for tough wear. Blue, green or tan. *Send neck size.*

PANTS to match. Were $3.95, now only . . . 99c
Send waist measure and inside leg length. 4 for $3.75

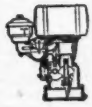
COVERALLS $2.29 — 3 for $6.75
SHOPCOATS $1.79 — 3 for $5.00
Wear 'em used, save plenty! *Send chest measurement.*

MONEY BACK GUARANTEE . . . if not satisfied! Order TODAY! Send $1.00 deposit on C.O.D. orders. Add 25c for postage on prepaid orders.

GALCO SALES CO. Dept. M-10
7120 HARVARD AVE. CLEVELAND 5, OHIO

HOW TO FIX ANY AIR COOLED ENGINE!

Save time and money servicing small engines on power lawn mowers, small tractors, industrial applications, etc. SMALL ENGINES SERVICE MANUAL shows how to make expert repairs, tune-up, overhaul or troubleshoot on 200 makes and models. Edited by engineers and professional mechanics. Covers any job on popular 2 or 4-cycle engines. Includes 1, 2 and 4 cylinder models, light weight and heavy duty, 1 to 35 HP. Contains 25,000 procedures, easy-to-follow instructions, time-saving shortcuts. 6,000 specifications. Parts information on 1,700 items. Only manual of its kind. Order NOW at $3.45 introductory price. Send check or M.O. Money refunded if you're not satisfied. Clip this.



SMALL ENGINES SERVICE MANUAL 1014 Wyandotte Street, Dept. C Kansas City 5, Mo.

RUPTURED

BE *FREE* FROM TRUSS SLAVERY

Now there is a new modern Non-Surgical treatment designed to permanently correct rupture. These Non-Surgical treatments are so certain, that a Lifetime Certificate of Assurance is given.

Write today for our New FREE Book that gives facts that may save you painful and expensive surgery, and tells how non-surgically you may again work, live, play and love and enjoy life in the manner you desire. There is no obligation.

Excelsior Hernia Clinic, Dept. F2505, Excelsior Spgs., Mo.

Here's how to make sure you never miss a copy of MECHANIX ILLUSTRATED, the science, crafts and hobbies magazine that has *everything:*

☐ One year: $3.00*

☐ Two years: $5.00*

*In the U. S., possessions and Canada. All other countries $6.00 per year.

☐ New Order ☐ Re-order

Please enter my Subscription to MECHANIX ILLUSTRATED

NAME.....

ADDRESS.....

CITY..... ZONE..... STATE.....

Mail to: MECHANIX ILLUSTRATED, Circulation Dept., Fawcett Building, Greenwich, Conn.

HELP WANTED!

A special MI public service feature.

Company: Esso Research & Engineering Co., Linden, N. J.

Products or services: Research, development, engineering in petroleum and petrochemical products and processes (firm is scientific and engineering affiliate of Standard Oil of New Jersey).

History and size: Established in 1919, has 2,750 employees (1,200 scientists and engineers) and an annual research budget of $44,000,000; in 1956 its engineers supervised projects totaling $500,000,000.

Jobs available: Research chemists; chemical, mechanical, civil, electrical, industrial engineers; technicians skilled as IBM operators; lab assistants and mechanics.

Location: Main research facilities and operating base are at Linden and all employees are assigned from there; overseas positions with Jersey Standard affiliates may be in virtually any part of the world.

Salary: Starts at $5,500 a year for those with BS degrees, increases according to experience; salaries for MS and PhD degrees are based competitively on prevailing rates in the industry. Esso has a program offering equal opportunity to men who choose to stay in technical line rather than go into administration; review program assures promotions on basis of merit and performance.

Requirements: Scientists and engineers must have degree from accredited school, high scholastic standing, no experience necessary; technicians must have high school diploma and two years' technical training, experience preferred but not required. Employees may be married or single.

Additional benefits: Educational refund plan for advanced training; Thrift Fund resulted in 11 per cent "bonus" in 1956; group medical and hospital insurance; retirement, sickness and disability, and other benefit plans and programs.

For further information: Write to Dr. T. Cross, Jr., Technical Placement, Esso Research & Engineering Co., Box 51, Linden, N. J.

Next month: The Martin Co.

Train at home to earn money in...

COMMERCIAL ART CAREER

Do you like to draw? If you have talent, you can train at home, in spare time, for a money-making career in commercial art.

Among all advertising artists, illustrators and cartoonists today, one out of every ten, it's estimated, has studied with the world's largest home study art school, Art Instruction, Inc. Many of the former students are now earning from $150 a week to over $50,000 a year, in the commercial art field.

Test your talent free!

Find out now, at no cost or obligation, whether you have talent worth training. Take the simple Art Talent Test that has started so many towards successful art careers. You take the test at home, alone. You get a free private analysis of your talent by professional artists. This does not obligate you in any way.

Mail coupon today for free Art Talent Test

Art Instruction, Inc. STUDIO 1006?
500 South 4th Street, Minneapolis 15, Minn.
Please send me your Talent Test, without cost or obligation.
(PLEASE PRINT)

Name_____ AGE____

Address_____ County_____

City_____ Zone____ State_____

Occupation_____ Phone_____

For peak
performance with dependability!

MERCURY's

NEW ENGINES WITH MORE WORKHORSE POWER... MORE SAFETY FEATURES... MORE MODELS TO CHOOSE FROM... NEW IN PERFORMANCE... NEW IN DISPLACEMENT... NEW IN FUEL ECONOMY... NEW IN STYLING... NEW IN COLOR... PLUS AN IMPRESSIVE ARRAY OF NEW MERCURY FIRSTS! MODERN IN EVERY WAY!

MERCURY'S ON THE MOVE. Compare and you'll choose Mercury . . . for every boating pleasure. Mercury has built more fours and sixes than *all* outboard manufacturers combined. Building thousands of V-fours for the air force plus years of designing and testing square fours, opposed fours, radial engines, big bore twins, V-twins and 3-cylinder engines have *proved* that only Kiekhaefer in-line design delivers the most, and in 1958 even more, horsepower per pound, horsepower per cubic inch, horsepower per dollar and more miles per gallon. Mercury owners know, and scores of endurance records prove, that nothing *outruns* a Mercury, nothing *outlasts* a Mercury. *Dependability with a punch . . . in twins, fours and sixes.* As in 1957 —the biggest news for '58 will come from Mercury!

Way ahead in **1958**

GREATEST

4 Great New Outboards

NEW MARK 78
Most powerful production outboard, 6-in-line, 66 cu. in. displacement.

NEW MARK 58
A new high in 4-cylinder performance, 44 cu. in. displacement.

NEW MARK 28
Power Pack Twin, 22 cu. in. displacement.

MARK 10 *Trol-Twin,*
the new slant in outboards.

And for '58 . . . proved and improved, the Mark 6, Mark 25, Mark 30, Mark 55 and the Mark 75.

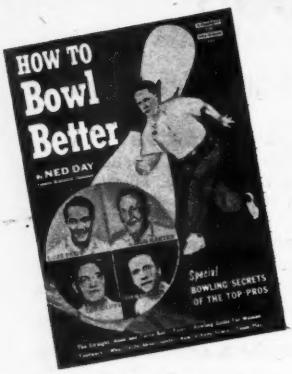
Whatever your boating need, Mercury's got it. Choose from 9 basic models—6 to 60-*plus* workhorse power. For full particulars, see your dealer now. Watch for more Mercury firsts! Write for FREE illustrated catalog.

© 1957 Kiekhaefer Corporation, Fond du Lac, Wisconsin

Own Your Mercury Now for as Little as 10% Down—Up to 24 Months to Pay!

Find Your Nearest Dealer In The Yellow Pages

FAWCETT HOW-TO BOOKS



How to BOWL BETTER • Rules, footwork, straight, hook and curve ball, scoring, team play (No. 352)

Mechanix Illustrated HOME REPAIRS • Furniture, plumbing, masonry and electrical repairs (No. 351)

Peter Basch's PHOTO STUDIES • Pin-ups, portraits, nudes. Over 230 glamour photos. (No. 350)

Home Workshop FURNITURE PROJECTS • TV table, storage units, garden furniture, finishes. (No. 349)

Photographing The FEMALE FIGURE • Poses, action, props, lighting, techniques, portraits. (No. 348)

ELECTRONICS GUIDE • Kits, receivers, hi-fi, amplifiers, tape recorders, "ham" radio, gadgets. (No. 347)

GOOD PHOTOGRAPHY • New! Multiple nude, outdoor glamour, children, documentary, salon. (No. 346)

Mechanix Illustrated POWER TOOLS HANDBOOK • Portable, stationary tools. Set up shop, safety. (No. 345)

HOW TO MAKE CERAMICS • Molds, glazes, airbrush, potter's wheel. Vases, bowls, titles, plates. (No. 344) Also available in hard cover edition at $2.00 per copy.

CAMERA IN PARIS • Landmarks, Louvre Museum, showgirls, Metro, Moulin Rouge, Lentheric, fashions. (No. 343)

HOW TO REPAIR washing machines, clothes dryers, refrigerators, vacuum cleaners, fans, mixers, etc. (No. 342)

How To Save On CAR SERVICE AND REPAIR • Fuels, radiators, shafts, gears, wheels, tires, etc. (No. 341)

PRIZE WINNING PHOTOGRAPHY • How-to articles illustrated by winners in sports, nudes, candids. (No. 340)

HOW TO BUILD IT • Furniture, cabinets, workshop aids, toys, outdoor projects, add a room garage. (No. 339)

Outdoor BARBECUE Cook Book • 125 recipes: meat, vegetables, sauces. Barbecues to build, tools. (No. 338)

How To Build And Contract Your Own HOME • Save up to $10,000. Foundation, interior, exterior. (No. 337) Also available in hard cover edition at $2.00 per copy.

New Way To Kill WEEDS In Your Lawn And Garden • Control crab grass, poison ivy, dandelions, etc. (No. 336) Also available in hard cover edition at $2.00 per copy.

The Complete ARCHERY BOOK • Techniques, equipment, hunting, fishing. Make bows, arrows. (No. 335) Also available in hard cover edition at $2.00 per copy.

The New HOW TO BUILD HOT RODS • Methods, tools, build a $250 rod, customizing, best hot rods. (No. 334) Also available in hard cover edition at $2.00 per copy.

How To Build OUTDOOR FIREPLACES And Furniture • Barbecues, smoke oven, chairs, buying guide. (No. 333) Also available in hard cover edition at $2.00 per copy.

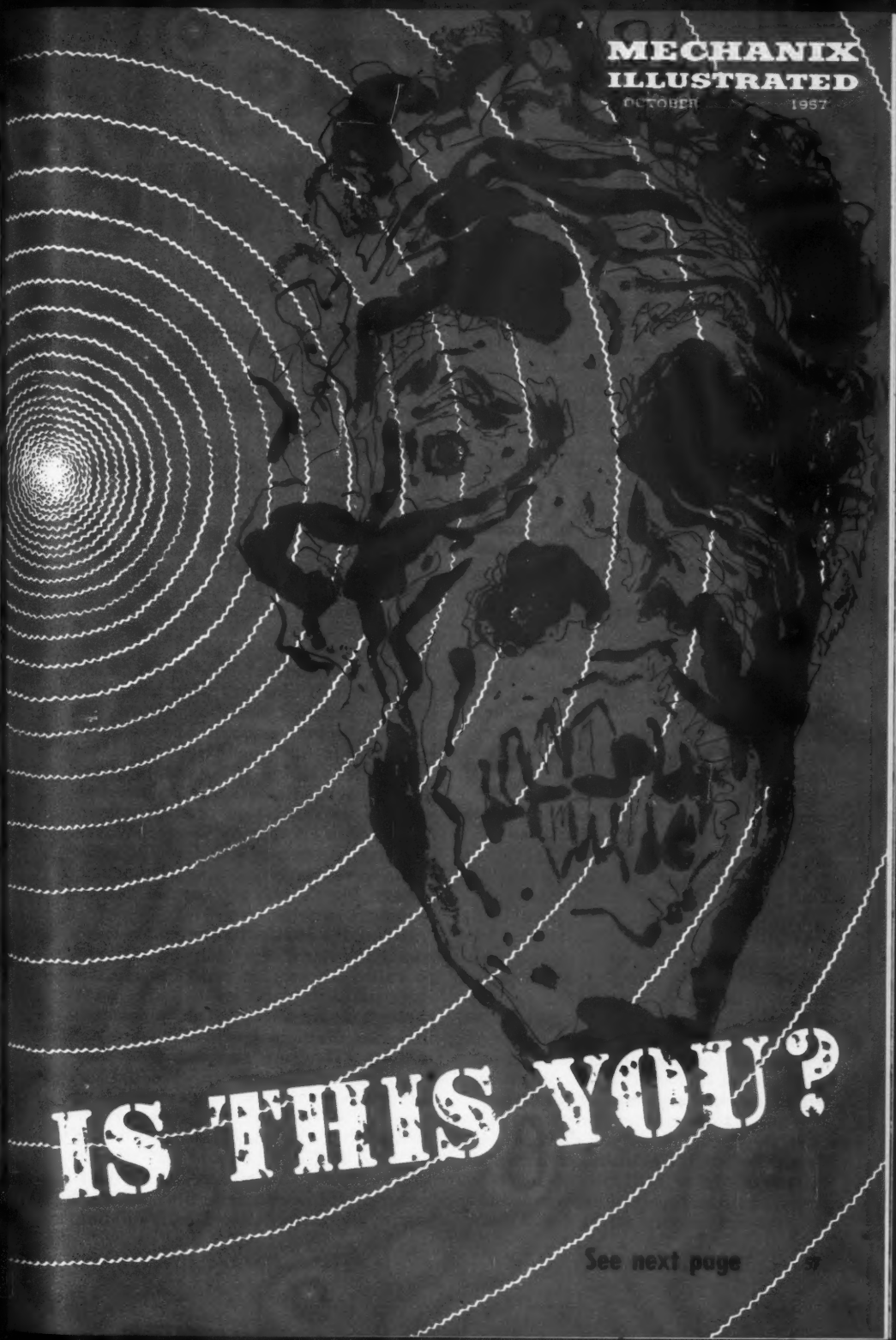
Good Photography's DARKROOM GUIDE • Developing, intensification, reduction, quality prints. (No. 332) Also available in hard cover edition at $2.00 per copy.

FAMOUS GUNS From Famous Collections • History of guns from colonial days. Over 300 photos. (No. 331)

To order direct, send 75¢ per copy for regular edition or $2.00 per copy for hard cover De Luxe edition to: FAWCETT BOOKS, Dept. MI-10, Greenwich, Conn. Add 10¢ per copy mailing charge for all books. Specify books by title and number when ordering.

A FAWCETT HOW-TO BOOK 75¢

AT YOUR LOCAL NEWSSTAND, LEADING DRUG STORE, SUPER MARKET, HARDWARE STORE AND BUILDING SUPPLY DEALER


MECHANIX
ILLUSTRATED
OCTOBER 1957
IS THIS YOU?
See next page

WANTED! AN ATOMIC

YOU wake one morning feeling sick to your stomach, a weakness in your knees and shoulders. Nothing terrible —just a germ, you tell yourself. The next morning the sickness is worse.

A few days later come racking attacks of vomiting and diarrhea. Your vision dims. Your doctor discovers a cataract forming in the corner of your right eye. A spot on the back of your hand erupts into an open sore that won't heal. Your doctor seems helpless to stop this frightening decay.

From then on you deteriorate rapidly. Sores cover your body. Ugly cataracts close your eyes. Fever, convulsions and utter weariness torment you. Your blood count falls off; you have no defense against infection. The end comes quickly; the diagnosis is bone cancer and leukemia complicated by pneumonia your body can't resist. Three months after you noticed the first symptoms you lie dead in the hospital, your wasted body riddled with open sores and the purulent malignancies of cancer.

You are a victim of a modern plague. You have died of radiation poisoning.

You've seen the headlines about fallout from bomb tests, the dangers of X-rays and fluoroscopes, the hazardous use of radioactive isotopes in hospitals, labs and factories. It may seem remote to you right now but as we move into the atomic age the ghastly symptoms of radiation poisoning will become familiar to all of us—disastrously so unless we begin the fight against the killer now.

What can we do? At present we have only the weapons of intelligence and determination. We must commence an intense study of radiation to learn to live with it and protect ourselves against it. Our first step must be the Atomic Birth Certificate—each citizen's personal record of his known exposure to radiation, a bit of cardboard in your wallet that may save your life.

The ABC is no alarmist's brainstorm; it's a recommendation of the National Academy of Sciences—the only source President Eisenhower says he will listen to on the subject of radiation dangers. Two Congressmen—Senator Richard L. Neuberger and Representative Charles O. Porter—have put the NAS recommendation into two identical bills now before Congress. The bills would establish a National Radiation Health Institute which would have the job of setting up a system of records for the entire population, keeping track of our lifetime radiation exposure.

What is radiation? How much do we know about it now and what good will keeping personal radiation records do the man, woman or child who wants to stay alive in the atomic age?

First, let's look into the nature of radiation itself. Radiation in its broadest sense is the movement of energy from one place to another by waves. Waves of water, of heat, of sound and of light. Some waves can be seen, heard, touched. Others, like X-ray, are beyond human sensing.

Before the radioactive age there were sources of harmful ionizing radiation—so called because it produces electrically-charged particles which pass through living tissue. The radioactive minerals uranium and radium are examples. They are radioactive as they came out of the ground. We did not know they could be dangerous. Five years after Roentgen discovered the X-ray, an X-ray specialist began losing his hair, suffered horrible skin ulcerations—typical symptoms of overexposure. He became the first recorded victim of cancer caused by radiation.

By Harry Kursh

BIRTH CERTIFICATE

In the 1920's a group of women in a watch factory were employed to paint radium on watch dials. To keep the points on their brushes, they passed them between their lips, each time swallowing microscopic amounts of radium. Ten years later most of them began dying of bone cancer.

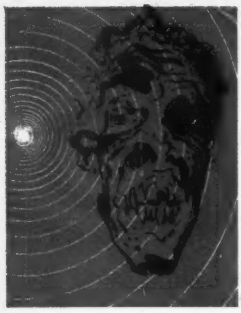
Since that time a new source of radiation has been created—a long list of minerals have been made radioactive by man in nuclear reactors and atomic explosions. Involuntary, unplanned, uncontrolled exposure to the particles in fallout are the most feared; the peril of radioactivity in the grass a cow eats and in the milk she gives, in the food of edible ocean fish—these are dangers against which the only defences are hope and prayer. Today a serious attitude toward radiation and a program to control the amount of radiation we undergo is imperative.

What does radiation do to you? We have already described some of the early symptoms—skin ulcers, falling hair, high temperatures, convulsions, general weakness, vomiting, diarrhea, low blood count. In serious cases, radiation leads to the horrors of cancer and leukemia. But there are worse effects than these. There is the long-range effect on the human race itself. Mutations in the genes—the factors of the reproductive cells that control heredity—are caused by radiation that reaches the sex organs. (And *all* X-rays, even dental, reach the reproductive organs.)

Mutations in nature come in myriad forms—four-leaf clovers, two-headed snakes, changes in color, form and biological pattern in any living organism. How will the human race be changed? The possibilities are monstrous. Geneticists envisage children with small heads, huge heads, cancer in body or blood cells, idiot mentality, epilepsy, no arms, no legs, defective sight or hearing, a vastly increased tendency to rheuma-

THE SILENT DEATH

THE photo you see here is the first published of a remarkable experiment now being conducted in a large eastern university. Monkeys and other animals are being fed Strontium 90 in their regular diet. Strontium 90 is the most dangerous of all radioactive materials. It is produced by nuclear bomb tests and finds its way into the human diet via fallout-grass-cows-milk. The experiments with animals have proved that Strontium 90 taken in the diet settles in the bones and skull and can lead to bone cancer and early death.



tism, high blood pressure, ulcers.

How much radiation can the human body safely take?

Persons who got a 1,000-roentgen dose in the Hiroshima and Nagasaki blasts died almost at once. (The unit of measure of radiation is the roentgen.) Three quarters of those who got over 600-r doses developed radiation symptoms in less than an hour; many died within 24 hours. Those who got 400-r doses lived a matter of weeks. On those bombings are based our standards of dangerous dosage that reaches the entire body at one time.

But the cumulative dosage that piles up over the years, as we visit our dentists and doctors for radiation limited to small body areas, is another matter entirely. Every tiny dose of radiation you absorb harms you to some degree. The effect never wears off—it adds up. That is the great horror of radiation: it is cumulative. Each dose you receive is added to every other dose you have received. Hence, there is no "safe" dose of radiation that can be endured.

In the past many doctors have used X-ray indiscriminately and the results of this practice are just coming to light. Mothers who submitted to X-ray during pregnancy now have this to reflect on: a British study shows that a large group of people who were exposed to X-rays before they were born had an 80 per cent higher cancer rate than a comparable group whose mothers were not X-rayed during pregnancy!

Hardly any medical people take the trouble to learn how much radiation patients have absorbed before submitting them to additional treatment or diagnosis by X-ray. I saw the medical record of a man who had a mole on his head. He went from doctor to doctor for treatment; none asked him how much X-ray radiation he had already received. He got an overdose of radiation, his brain was damaged; he had sudden convulsions and died. This man's case history is now benefitting the patients of doctors who take the trouble to keep up on their reading.

But even the most conscientious doctor has only the word and the memory of the patient to go on. How many X-rays have you had in your life? Few patients can give any accounting at all. The need for an Atomic Birth Certificate, with a record of every controlled

THE X-RAY PERIL

THE National Academy of Sciences recommends that the average person receive not more than ten roentgens of radiation to the reproductive organs from birth to the age of 30. A recent report estimates that the average person receives almost half of this dangerous dose from medical X-rays in the first 30 years of his life. Most experts are now agreed that man faces a much greater danger from medical use of radiation than from bomb fallout.

exposure, is obvious. But the fact that it is obvious and that the recommendation comes from the National Academy of Sciences is news to many experts in the field of radiology. In conducting my survey of medical opinion on this subject I found I was actually pioneering the idea of the ABC; mine was the first survey to be taken on the subject.

Interest in the ABC is growing, however, and the consensus of the experts I talked to was that the following information should appear on the document: Name, address, date of birth, sex; type of radiation in each instance; operating voltage and amperage of machine involved; part of body exposed; estimated total dose; place where radiation was given; purpose of radiation (treatment or diagnosis). In recognition of the growing use of radioactive materials in industry, a space on the card should be left free to note accidental exposures.

The uses of the individual record would go far beyond the protection of you and me. As a source of information to the medical profession during the coming era, the millions of individual records would be priceless. As a discipline for the many doctors and technicians now using radiation, the record-keeping would be useful.

Some scientists are appalled at the ignorance of many medical people concerning the X-ray equipment they work with. One survey showed that physicians who specialize in the use of radiation for diagnosis and treatment die on an average of five years earlier than a comparable group of non-radiologists.

The bills now before Congress may become law this year or next. But in the months it will take to set up the program of record-keeping, what can you do [*Continued on page* 178]

"A chill wind blows over the sunlit field of human health and happiness. It emanates from all sources of high energy, ionizing radiation—but especially from the common X-ray machine. When the harvest is in, from the damage already wrought by the promiscuous exposure of the human population to ionizing radiation, the loss in man-life years will rival that from some of the great parasitic plagues of mankind."

Dr. Reimert T. Ravenholt,
Seattle-King County Dept. of Public Health, Wash.

"There is no doubt of the danger of radiation to mankind. Scientists may differ over the degree of risk, but doubt has vanished as to the existence of the peril."

Sen. Richard L. Neuberger, Oregon

"Records should be kept for every individual, showing his total accumulated lifetime exposure to radiation."

Report, National Academy of Sciences

"It has been found from extensive animal experimentation that repeated small doses of radiation reduce life expectancy in direct proportion to the total dose received."

Dr. G. Hoyt Whipple,
University of Michigan

"The incidence of leukemia among radiologists is over nine times as great as in non-radiologic physicians. But in the latter group, the incidence of leukemia is twice that of the general population."

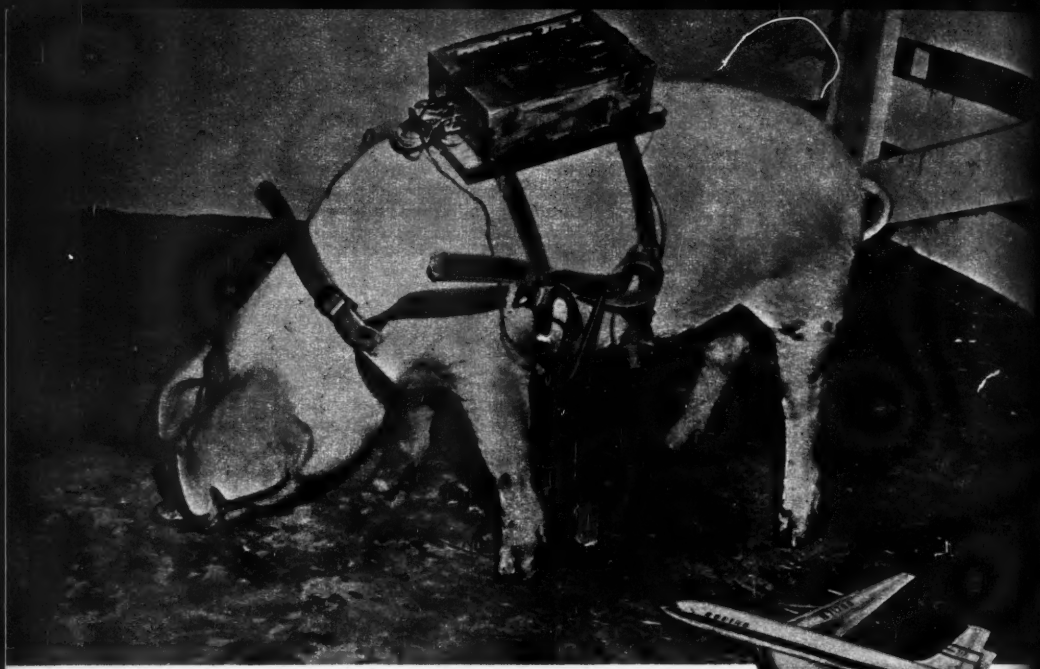
Dr. Maxwell H. Poppel,
New York University-Bellevue Medical Center

"Geneticists are justified in raising an alarm over the danger that a notable increase in general radioactivity might bring about for all living species, including the human race. Should cancer produced by radiation be considered a kind of . . . mutation? If this is true—as many radiobiologists admit—then the frequency of cancer will be accentuated in the future . . ."

Dr. A. Lacassagne,
Chief, Pasteur Institute,
Paris, France

"All living tissue is killed if exposed to large enough doses of radiation."

Dr. J. F. Loutit
Medical Research Council



PIGGYBACK radio tests Porky's reaction to jet noises.

PIGS TEST JETS

REAL pigs are making an unusual contribution to the jet age. Science is utilizing the tasty porker to try and determine the effects of the ear-splitting roar of turbine engines on both man and beast.

Tender eardrums in and around airports of many major cities have been harshly treated of late and complaints lodged against jets have been numerous. While engineers have been working to overcome this problem a different group of men has been seeking to discover whether such noises affect the productivity of livestock and fowl.

The pig pens at the U.S. Department of Agriculture's Research Center at Beltsville, Md., are being used in experiments to find out. Here young pigs waddle around with a radio electrocardiograph strapped to their backs. This device is a miniature radio transmitter that is powered by hearing aid batteries. The purpose of this equipment is to test the animal's heart action before, during and after long exposure to the clamor of thundering jet engines.

Three groups of pigs, six in each group, have been placed in three separate pens. One group cocks curly pink ears at recorded jet plane noises, the second to conventional airplane engine sounds and the third to no noise at all. The animals are slaughtered at intervals and their vital organs examined for any changes. Thus far the pigs haven't seemed to mind the clamor, for scientists have found no organic changes. The jet din has only caused the pigs to stop eating momentarily, grunt or wiggle their ears.

The U.S. Air Force is currently financing the long-range test program. One problem they hope to eliminate is law suits filed against the Air Force by outraged farmers who claim that the jet engine noises affect the productivity of their livestock. The Air Force shelled out plenty during World War II for such claims. They hope to end such pay-offs in the future—thanks to a bunch of patriotic porkers. •

Eye-Stopper

STRUCTURAL ENGINEER and friend are standing in Boeing's 400,000-gallon, 130-foot long, $100,000 tank used in underwater pressure tests of airplane parts. No plane figures here.

MONEY MAKING IDEA

HE SELLS MEALS ON WHEELS

By James Joseph

"IN the U.S., 15,000,000 people work in manufacturing plants—"

So said the government survey. "Who feeds them?" wondered crew-cut, 22-year-old Eddie Burr. Following a hunch, he called on a plant manager.

"We'd do anything to get out from under that cafeteria," said the man. Like most plant-run eateries, it ran at a loss.

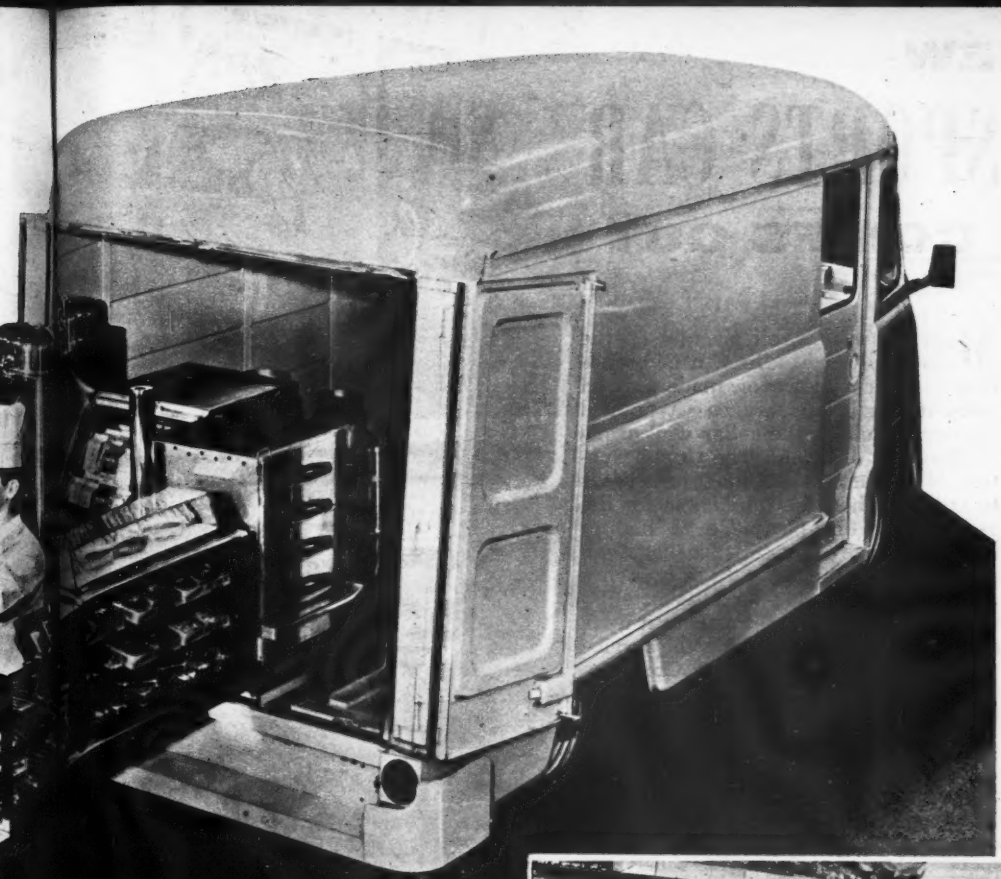
"Suppose I stocked a mobile lunch wagon, drove right to your gate and sold fresh sandwiches, coffee and coffee-break snacks?" asked Eddie.

"You've got a deal," said the man.

That was in 1954. Eddie put his entire $300 savings into a panel truck, borrowed $750 to fit it out with urns, stainless steel shelves, an ice compartment and oven. Today, at 25, Eddie makes $1,200 a month minimum from his California Chuck Wagon Service. His five wagons serve 50 plants in the Los Angeles area, cater to thousands of customers at coffee break, lunch hour and shift ends. If Eddie ever wanted to sell his routes, other rolling restaurateurs would jump to pay up to $25,000 for them.

Pretty soon Eddie plans to open his own commissary, prepare his own coffee and eats; that will boost profits 35 to 50 per cent. The trucks he uses today cost him $2,000 before he installs the store, which sets him back another grand. The trucks are arranged so that two lines of patrons can help themselves to the goodies while the driver-cashier makes change. The route man's job is demanding; you must be a fast worker to handle hundreds of orders in a ten-minute break, and when the breaks run strictly from 9:50 to 10 a.m., you must

Photos of '58 cars! See November MI.



DODGE MOBILITERIA—typical of new self-service lunch wagons.

FORTY SECONDS after cutting ignition, patrons are buying wares.

be there when the bell rings. The other big requirement is same-day fresh things to eat. Not only do the boys and girls prefer edible grub but there's a same-day clause in most plant caterer contracts.

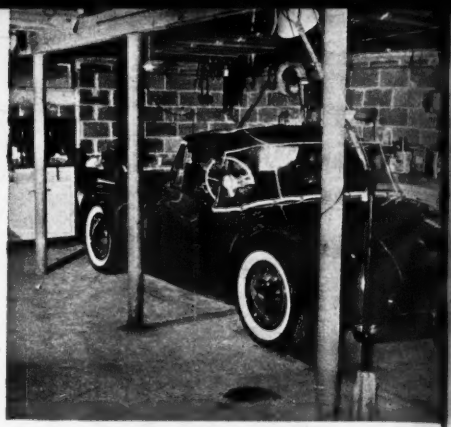
The mark-up on most of the goods, supplied by a regular lunch wagon [*Continued on page* 185]

NEW

SPORTS CAR

COMES OUT

MOST new cars roll placidly off the assembly line. Jim Curtis' brand-new sports car, however, made a much more dramatic appearance—it popped through a hole in the cellar wall of his Oakland, N. J. home. The Curtis Custom, as the car is called, took three years to build. When the time came for the car-crashing out party Curtis had to hack down one of his cellar walls. Even so, he got the car out with only inches to spare. The do-it-yourself sports job weighs about 3,000 lbs. Parts for it were easy to come by for Curtis is the service manager for Park Motors, a Chrysler-Plymouth dealer in Rutherford. Oh, yes, the wall has been repaired. •



PLASTIC-TOPPED car was built in cellar of Curtis' home, upper right. Wall was opened, right, and car moved out with inches to spare, below. Jim, Jr., eight, supervises.

PLUSH interior sports '52 Imperial instrument panel, handy stick shift on the floor.

CHEERFUL Curtis begins job of repairing wall now that car is out of the basement.

THE CURTIS CUSTOM

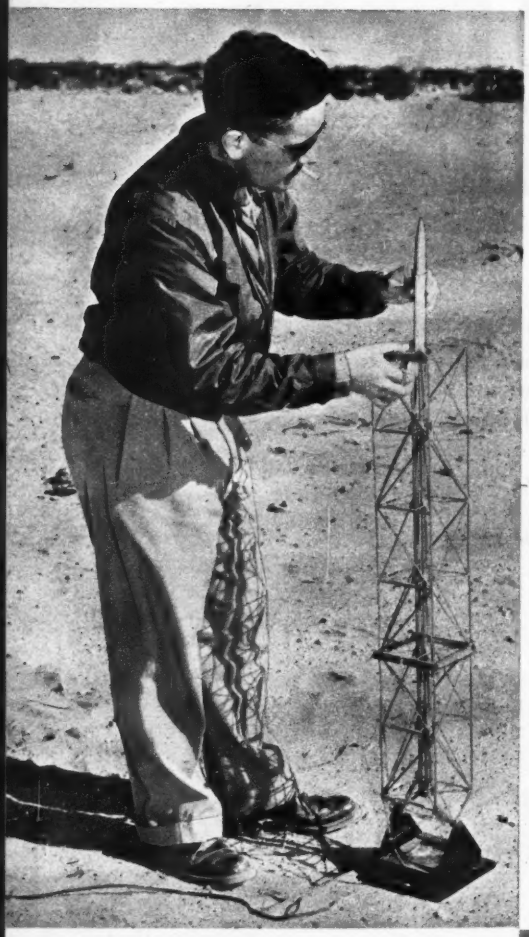
- Modified Plymouth frame dropped to sports car level.
- 1951 Chrysler engine, 180-hp, mounted in back of the front axle.
- 1953 Plymouth fenders; 1954 Plymouth hood.
- Modified 1941 Plymouth grille.
- Twenty-gallon Chrysler gas tank.
- Push-button (electrical) doors and windows.
- 1952 Imperial instrument panel.
- Transparent, folding plastic top.
- Eighteen coats of paint.

HUMP sticking up on hood allows breathing space for carburetor.

COVER STORY

SHOOT-YOUR-OWN

By G. Harry Stine



AEROBEE scale model being loaded in tower by author Stine is powered by basic Rock-A-Chute motor.

AMATEUR rocketeers who have been waiting for a chance to shoot their own rockets skyward may be just a step away from lighting the fuse.

The man who made this possible is Orville Carlisle of Norfolk, Neb., a largely self-educated man whose hobbies are chemistry and rockets. He has perfected the Rock-A-Chute, a small, easy-to-shoot rocket about 11 inches long and one-inch in diameter.

Powered by a solid propellant motor of his own design, Carlisle's Rock-A-Chute will zoom 1,000 feet into the sky, eject a parachute and lower itself safely to earth. Once recovered, its parachute is merely repacked and a new rocket motor installed. It is ready for flight again in less than five minutes.

Carlisle began the development of his Rock-A-Chute in 1953. As a result of reading Conquest Of Space in MI, he sent half a dozen Rock-A-Chutes and 50 rocket motors to me at the White Sands Proving Ground. We fired them before an audience of delighted rocket men. All of us were amazed, for over 200 of these little missiles were fired—and the Rock-A-Chute did not fail once! This is an unheard of performance in the rocket field.

We subjected the Rock-A-Chute motors to every conceivable test. We rigged up the "World's Smallest Static Test Stand"—a rig where we tied the rocket motors down for testing in a man-

MISSILE MAN Orville Carlisle puts motor in one of his rockets. He spent four years developing idea.

ROCKETS

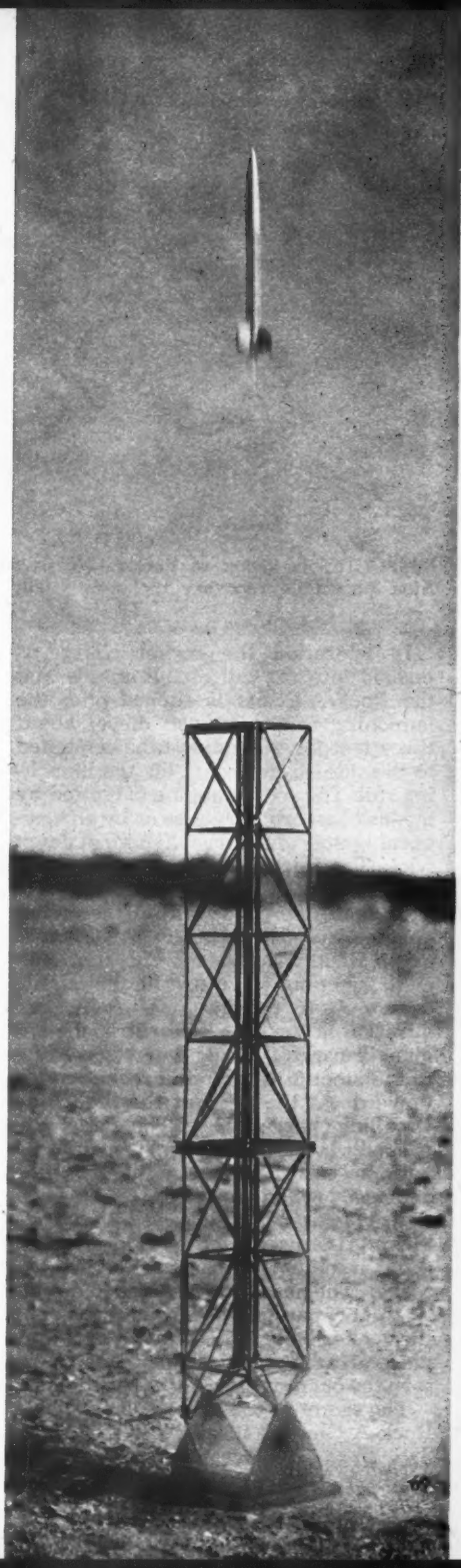
ner identical to that used for the big ones. We dropped one, stepped on it and fired it; it worked. We froze one, fired it cold and it worked. We gave it shake tests to see if we could jar something loose; we couldn't, and the motor worked as well as before. We tried to make it explode, and it wouldn't.

So I think I can say in all honesty that Rock-A-Chute as developed by Carlisle is the safest and most reliable rocket I have ever seen. The instructions for operating it are so simple that a boy can follow them.

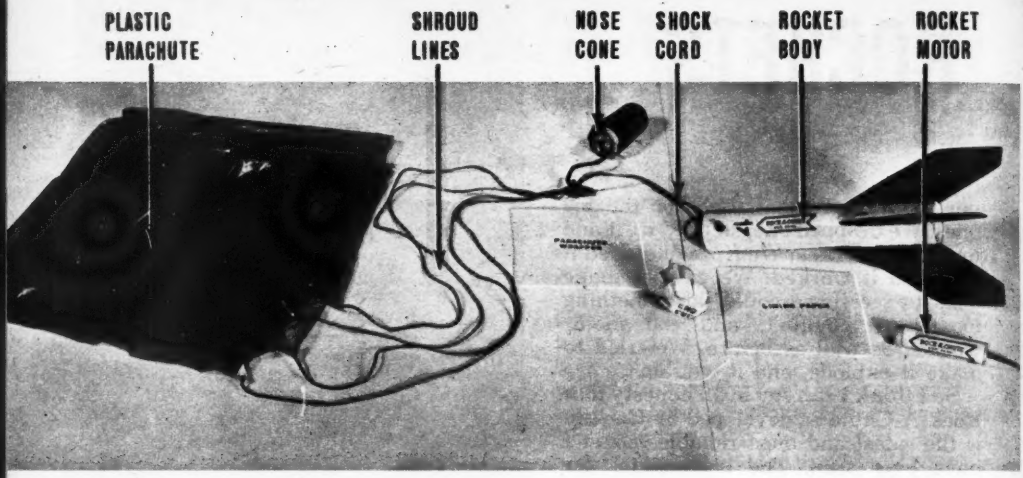
As far as performance is concerned, the Rock-A-Chute is *not* in the category of a mere toy. The rocket engine, a cylinder 2¼ inches long and ½-inch in diameter, uses a solid fuel and puts out about a pound of thrust for about two seconds.

Since the body itself must be as light as possible as well as extremely rugged, the Rock-A-Chute is made from ordinary paper rolled to form a one-inch tube. Three balsa fins are cemented to the tail; the nose cone is plastic. The rocket engine is merely pushed into a ring-shaped socket in the tail. The parachute is an 18-inch square of thin red plastic which is folded and rolled into a cylinder, then wrapped with paper and inserted into the body of the rocket.

The rocket engine charge is simplicity itself. The case is made of a flame-resistant paper tube with walls ⅛-inch thick, while the rocket nozzle is a small hole located in the center of a ceramic plug that closes one end of the engine. The motor has three parts: 1. The propellant which provides the thrust; 2. The time element which is activated by the propellant; 3. The expelling charge which is activated in turn by the time element. Carlisle loads various amounts of propellant into the case, depending upon how long he wants the engine to provide power.



BLAST OFF. Rock-A-Chute-powered missiles have hit 150 mph and 1,000-foot altitudes.



SIMPLICITY is secret of Rock-A-Chute's success. Its components are displayed above. After parachute recovery rocket is easily repacked and ready to fire with new motor.

In operation the rocket charge is pushed into the tail of the missile and the Rock-A-Chute is slipped onto the launching rail, a ⅜-inch dowel about three feet long. A guide tube cemented to the side of the rocket fits the launching rail. The rocket engine is ignited by means of an ordinary fuse or by an electrical igniter made from a piece of Jetex wick. The Rock-A-Chute then takes off vertically with a loud *whoosh*.

Once all the propellant in the rocket engine is used up, the time element is automatically activated. The time element functions slowly while the missile coasts up to maximum altitude. The duration of the time element in the engine is carefully calculated according to the amount of time the rocket coasts upward. At the peak of the flight, the expelling charge is fired. The parachute, packed into the rocket body and wrapped in paper to keep it from being damaged when expelled, is pushed sharply forward by the expelling charge, kicking the nose cone off and allowing the parachute to come clear of the rocket. The nose cone is attached directly to the parachute shroud lines, but the rocket body is on the end of a long piece of rubber band which acts to absorb the opening shock of the parachute.

The secret of the success of Carlisle's Rock-A-Chute is its absolute simplicity. There is nothing that can go wrong.

You are probably asking by this time, "Where can I get one of these Rock-A-Chute rockets?"

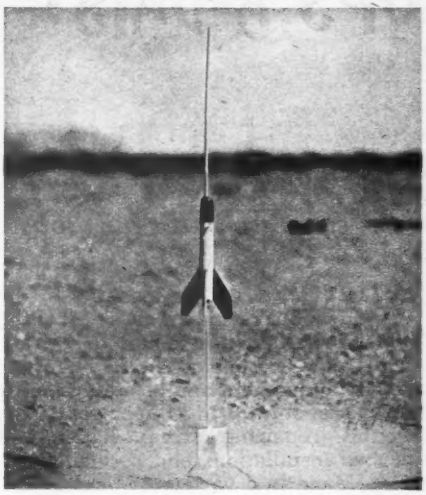
Forty-two states have laws prohibiting fireworks. But nobody is quite sure whether or not the Rock-A-Chute rocket motor can be classed as a firework or not. Those of us who have seen it and watched it in action know that it is not a firework; it is a model rocket engine, as safe and reliable as a model gasoline engine. It ejects no visible flame and we have pictures to prove this. It takes a temperature in excess of 550° F. to ignite the rocket fuel and it is safe from the hazards of spontaneous combustion.

However, as it stands now, Rock-A-Chute can be openly purchased and shipped to anyone in the United States who will get the proper permit from his local fire marshal, fire chief, or local office which issues such permits. Organized rocket clubs, science groups, schools and other such organizations generally should have no trouble in obtaining permits.

Since the Rock-A-Chute is strictly a handmade item at present, the complete kit with a dozen rocket motors costs $7.95. Standard rocket motors are $1.25 a dozen while the high-powered super motors are $2.50 per dozen. Car-

ZERO HOUR. Young rocketeer ignites missile. While not a toy, device is perfectly safe.

MISSILE AWAY! Total absence of flame is indication of highly efficient rocket motor.



PARACHUTE is ejected by expelling charge and brings rocket safely back to ground.

lisle at his store at 420 Norfolk Avenue, Norfolk, Neb., says he can supply a very limited number of Rock-A-Chutes to people—provided they obtain the proper local permits in advance.

At White Sands we have designed and flown model guided missiles powered by the Rock-A-Chute charge. These have been true scale models of such rockets as the Aerobee, the ASP, the Pogo, the Honest John and the Viking. A standard Rock-A-Chute charge will fly a model Aerobee completely out of sight! One just looks where the rocket disappeared and soon the little red parachute comes into sight again. Speeds of 150 mph or more have actually been achieved by Rock-A-Chute and the little missile models!

Furthermore, the parachute recovery system works every time. In flight, the missiles are not dangerous because there are no heavy falling pieces. The launching rail system provides a positive and safe direction of the flight path. On fairly calm days they can be flown from any athletic field or open area; on windy days the parachutes can drift a long way but the flights are still safe.

The Rock-A-Chute not only offers long-yearning enthusiasts a complete missile system in miniature to experiment with, it also stimulates youngsters on the threshold of an exciting and fascinating new era in space travel to use their imaginations. They can design, build and fly rockets of their own, using the basic Rock-A-Chute motor and parachute recovery system. You can't learn everything about rocket aero-dynamics in books—but knowledge is quickly acquired by flying your own.

Model rocketry, which has always been fun, has now become safe. And the rocket, prime power plant for the conquest of space, will soon be available to anyone thanks to Orville Carlisle and his Rock-A-Chute! •

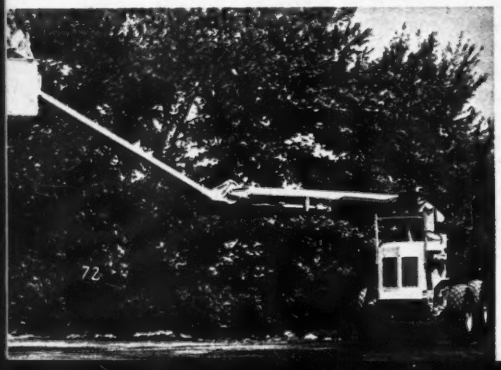
UPS-A-DAISY

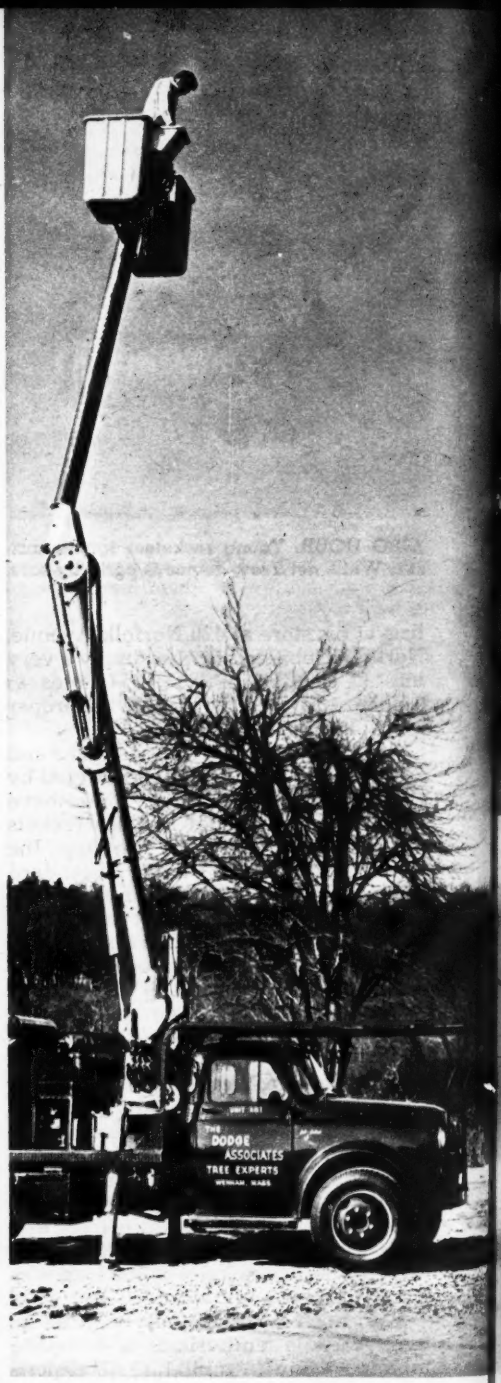
Sky-Worker raises the boom to ease up-in-the-air jobs.

WORKMEN get a quick lift in the novel bucket-like crow's nest of the Sky-Worker, a truck-mounted, hydraulically powered boom. The Sky-Worker can lift a man aloft and position him for any aerial job up to 41 feet above the ground—repairing street lights and electric installations and servicing aircraft. Made in a variety of models, the device may end time-consuming and costly scaffolding on many jobs. •

FOLDED Sky-Worker on telephone company truck is used to string rural power lines.

BOARDINGHOUSE REACH makes it easy to trim trees or service electric utilities.





HIGH MAN is 41 feet up. He can control rig from crow's nest and work in comfort.

CONVERSION puts hinges on back end of trunk lid, mounts spare on the outside.

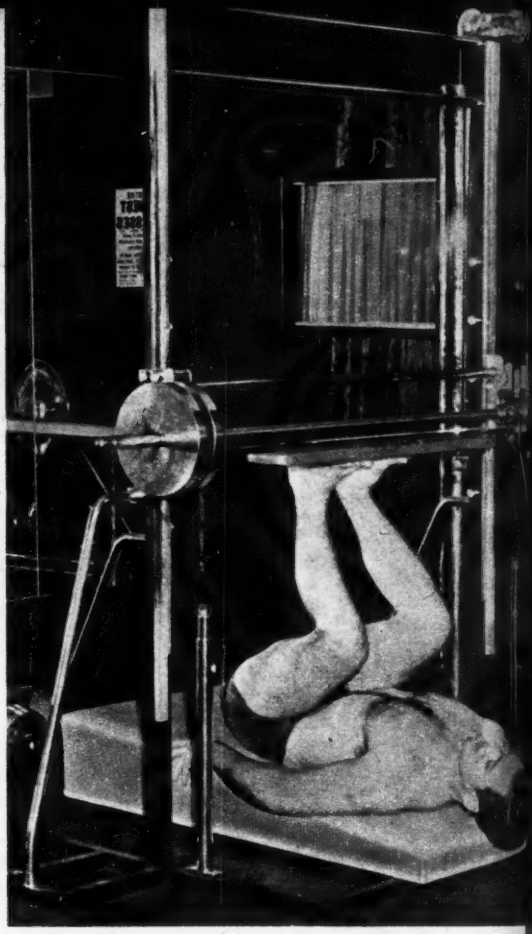
With Rumble Seat

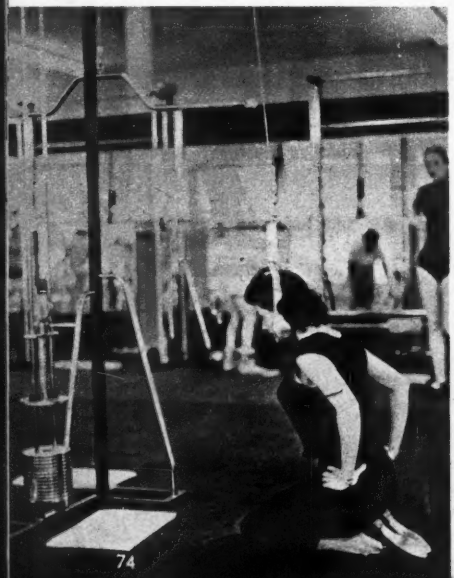
A SMALL but insistent percentage of MG customers have been demanding a rumble seat in this two-seater sports car, and now the firm of John Gibson and Son, Ltd., Edinburgh, Scotland, has standardized the conversion of boot to dickey seat—as they so quaintly say over there. There is said to be leg room for a six-footer in the rumble—recognition of the curious fact that big guys like little cars. Addition of step on rear bumper aids access. Seat cushions may be removed from the boot, allowing space to be used for luggage. •

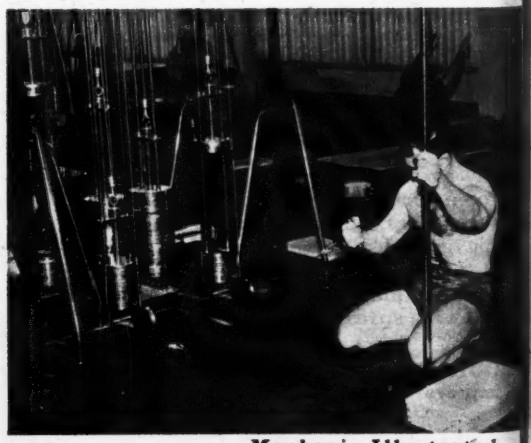
OUTSIDE MOUNTING of spare is said to improve cornering, road-holding qualities.

MACHINE-MADE MUSCLES

MACHINE-MADE muscles are physical culture expert Vic Tanny's solution for leisure-time flab gained as a result of our pushbutton age. Tanny has designed and built a group of complex machines that can be set to condition any part of the body. Each machine is weight-resistant and the individual works against dead weights by exerting his muscles. The Hollywood, Calif., body-builder claims he can put any healthy person in tip-top shape via his devices. Each client gets personal attention and a program to fit his needs. Men and women who take the course emerge slim, trim and supple with all their muscles at peace with the world. •



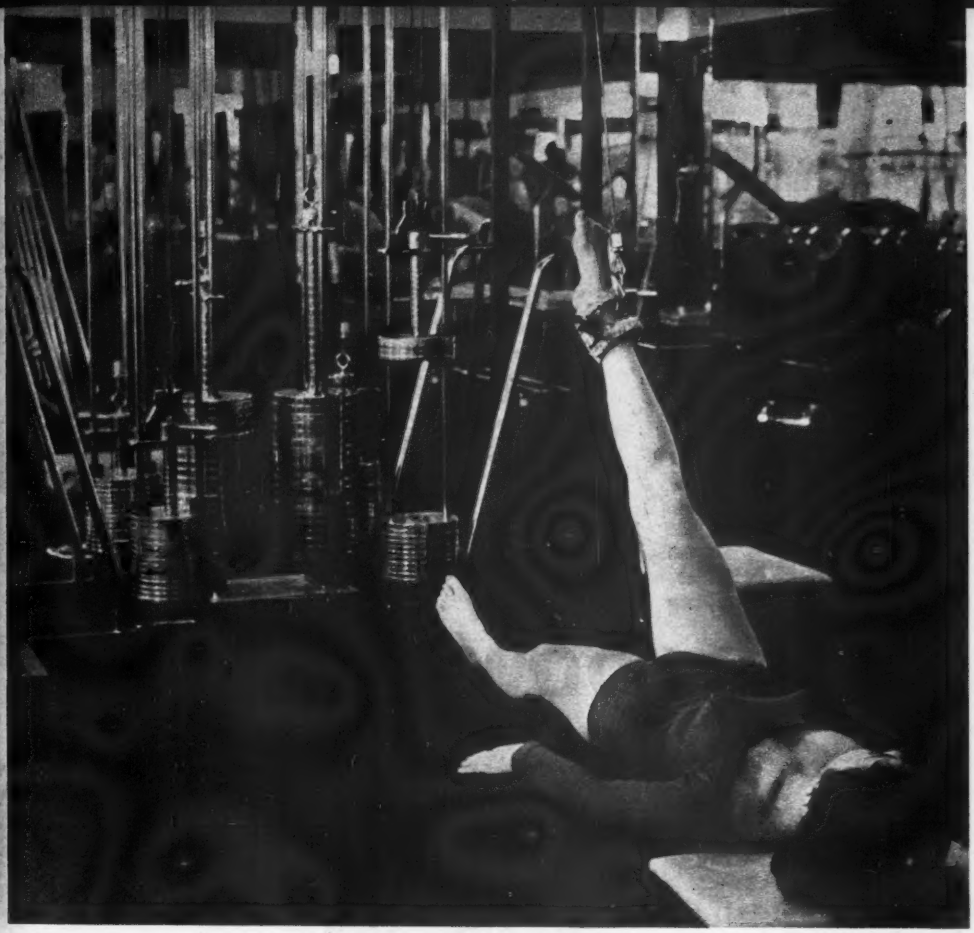




SMITH BAR develops the legs and upper thighs.

JUNGLE PULLEY, left, eliminates double chins.

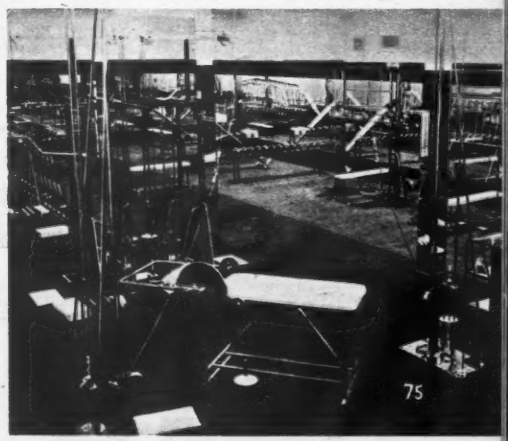
MIGHTY arm muscles are being developed here.



SLIM AND TRIM thighs result on this device.

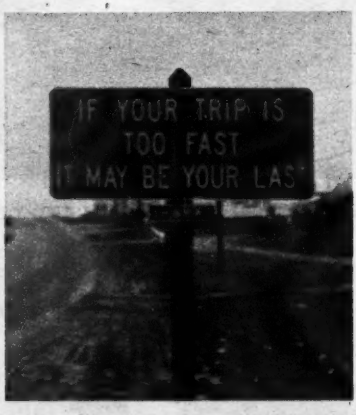
SHAPELY LEGS, left, are made on this table.

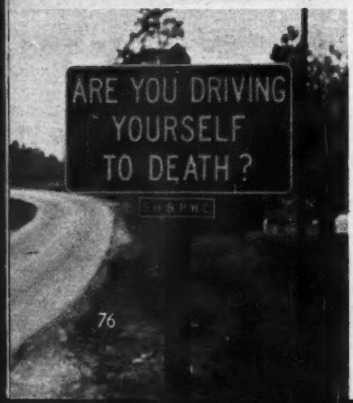
BIRD'S-EYE VIEW of $50,000 Tanny gym.

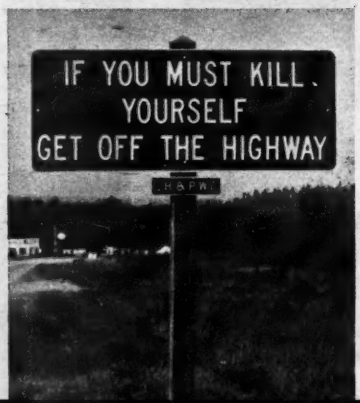


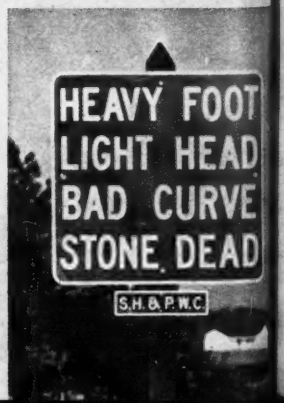
SMILE and SLOW DOWN

NO figures are at hand to prove whether these witty North Carolina signs have helped cut the accident rate. But many Tarheels, and out-of-state drivers as well, feel that wording the warnings humorously is a good way to make road safety popular. •





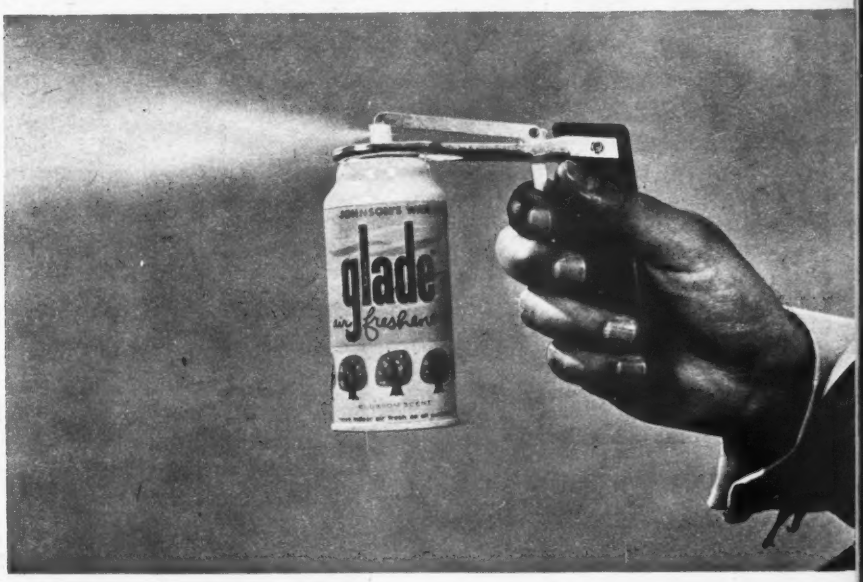




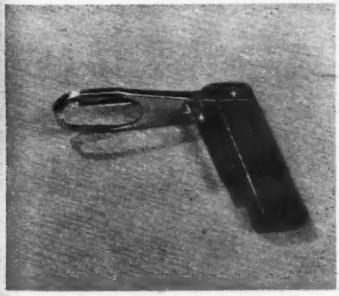
Jiffo-Jet HANDLE

MECHANIX ILLUSTRATED BRIGHT IDEA AWARD

VERSATILE handle fits any spray can in seconds.



SIMPLE is the word for this Bright Idea.

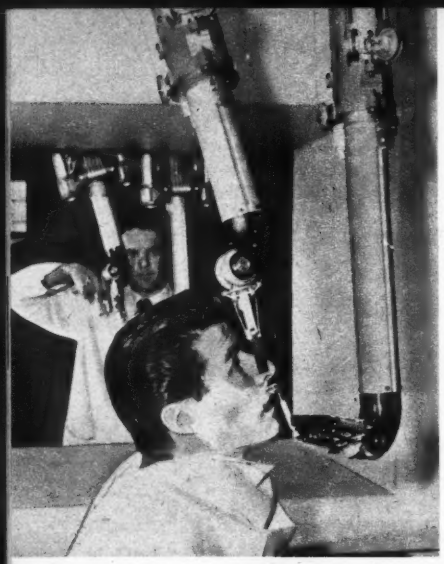


ANY spray can is a veritable spray gun with the Jiffo-Jet Handle, a $1 item (postpaid) being sold by the Dickman Co., P.O. Box 6238, Philadelphia, Pa. Anyone who uses spray cans regularly can see how this gadget gives better control, easier handling. It also keeps fingers out of the paint and insecticides. •

WIN $50

MI will award $50 each month to the first person who tells us of a new and useful gadget that is patented and in production. Manufacturers are also eligible for this award. Pictures and a description should be sent to Bright Ideas Editor, Mechanix Illustrated, 67 West 44th Street, New York 36, N. Y.

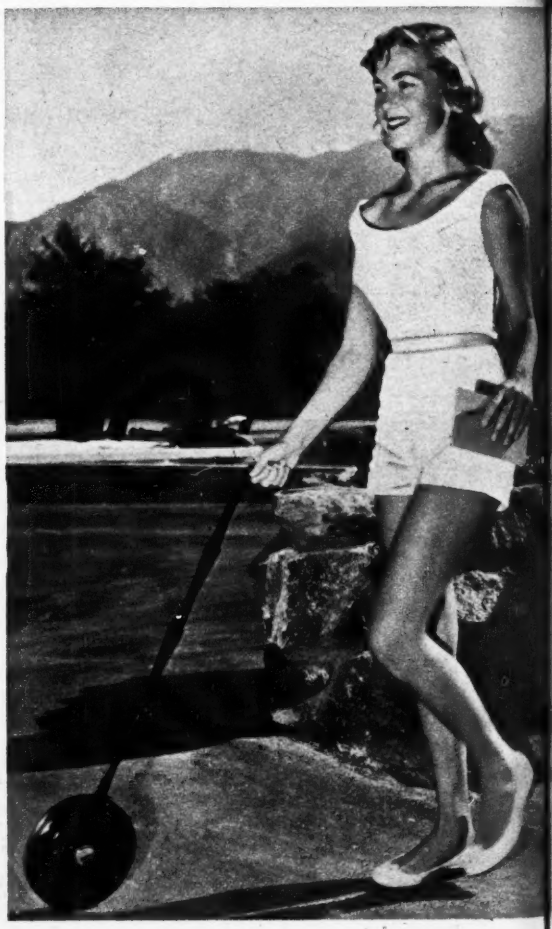
HANDLE snaps onto can quickly, easily.



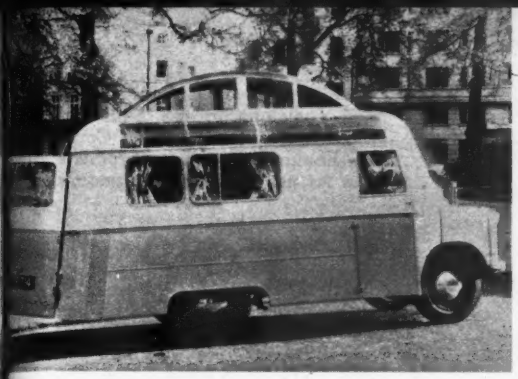
MACHINE SHAVE via master slave manipulator used to handle radioactive materials at Watford, England, can make all movements of human hand.

IT'S NEW!

WALKIE TAPE being pushed by lovely Stephanie Burton at Royal Air Country Club, Palm Springs, Calif., measures feet and inches as it is rolled along.

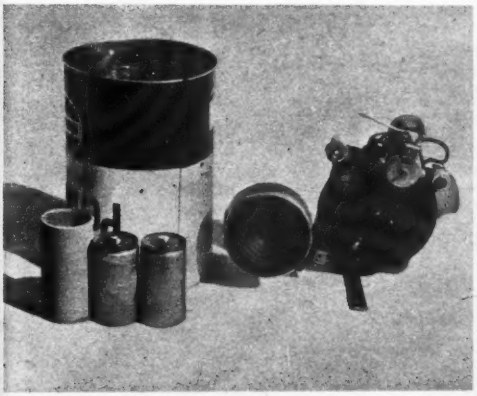


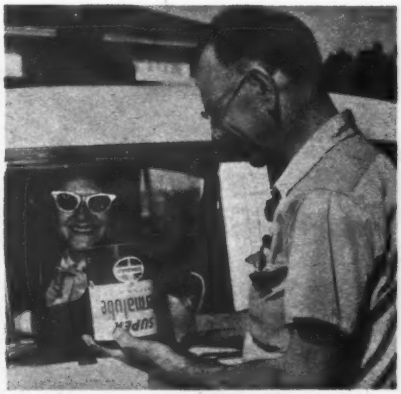
SEVEN YEAR SHIP built in backyard by Brooklyn's Mike Dibari is ready for water. It cost him estimated $100,000 to build 23-ton, 44-foot cruiser.



HIGHWAY HOME has bath, two double beds, kitchen, telescoping roof (raised) that allows six-feet headroom in British buggy.

PERSONALIZED license plate with name on triple chrome-plated frame is $3.95. Pair costs $6.95. Name Frames, Seattle, Wash.

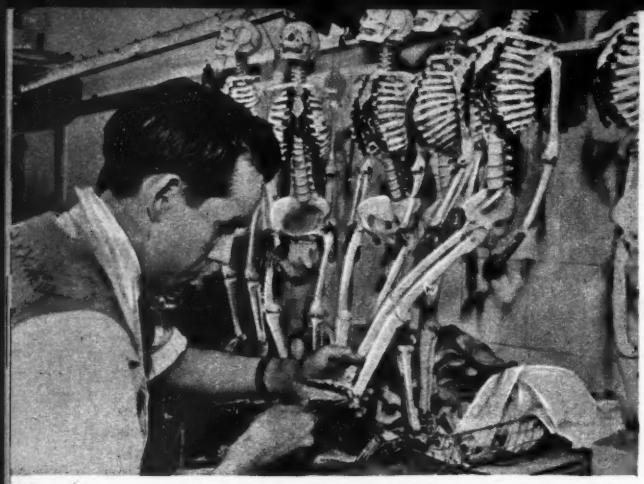




TALKING CAN gives oily sales pitch, right. Two flashlight batteries power flea-sized motor which spins record via rubber-band belt, left. Record player has 50-foot range.

DKW-MONZA, new German sports car, has front wheel drive, plastic body, 99-mph top speed.

CONTINUED . . .



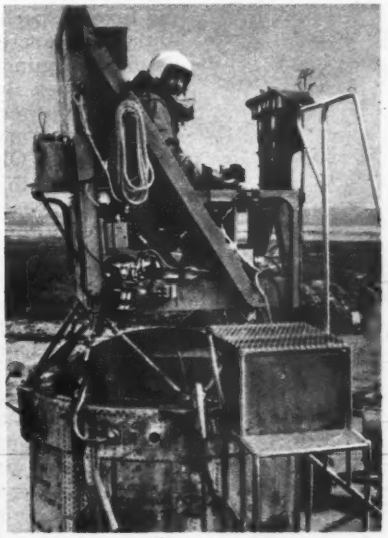
CHORUS LINE of miniature articulated skeletons in the Education and Science Plastics plant, Coulsdon, England. Firm mass-produces them for use in teaching anatomy.

MINE DETECTOR mounted on jeep automatically stops vehicle when it locates a buried mine. Movable search-head can be controlled by driver. Gizmo is Army-developed.

ELECTRONIC McCAHILL, British, records student driver's performance in shifting, accelerating, braking, cornering maneuvers.

GOOD MUDDER developed by German tractor-maker goes on twin worm shafts that propel it through soupy mud, at same time digging ditch at rate of 750 feet per hour.

TRICYCLE sports car, new British Coronet, has single rear wheel, plastic body, 60-mph top. It gets up to 60 mpg if you average 30 mph.



FRENCH VTOL that converts to level flight is put through its paces for top French officials by pilot sitting on top of its cylindrical body.

ATTIC FIRST is the new German home-buying plan. This much can be bought and lived in, put on lower half later on. Pyramid goes for $4,000.

Hunting and Fishing

Get Your Limit

By Wynn Davis

THERE is something exciting about the honking of high-flying geese across the marshes on a frosty morning and there are few thrills equal to coaxing a wise old gander in close enough for a kill. It takes skill and real know-how to fool those flying foxes, especially the old veterans of several seasons of running the gauntlet of guns clear down to their winter homes. But a little practice on the right goose call, a little knowledge of how to set a stool of decoys and how to keep Old Sharp Eyes from spotting you a mile away, will get you a limit of geese every day the big birds are on the wing. Assuming, of course, that you can shoot.

The biggest thrill in goose shooting comes to the man who can call the birds to him, using devices known as calls. There is a box call made on the West Coast that is tops and so easy to use that even a small boy can master it in little time, and there are several excellent mouth calls and some that are worthless. The calls to master are the turning call and the feeding call. One you *don't* want to make is the alarm.

When you see geese, give them the turning call, loud and clear. This is a two-toned call: "Ker-*honk*!" When properly executed it sounds like this, "Ker-*honk!* Ker-*honk!* Ker-*honk!*" with the emphasis always on the second tone of the call. It will turn the birds towards you. Once they start in, lowering on the way, keep absolutely motionless. A call now or a move of your head, hands or gun will spoil the show.

Should the old gander suddenly get suspicious and veer off taking his flock with him, give the feeding call.

# of Geese

This is two or three low, one-toned honks, easy to make on the box call, difficult on the mouth piece. A good call and a fine, well-set stool of decoys is a combination hard to beat. But even this can be cancelled out by the clothes you wear. Wear a suit of U. S. Army surplus camouflage (the kind used in the South Pacific during World War II, if you can get it) and a face covering with hat to match. This is essential to goose hunting, and ever since the day a friend flew me over the Chesapeake blinds I have known why—white faces, contrasting clothes and careless movement are easy to spot from aloft—and the honker is the most observant of birds. Smear mud on your face or make a face cover of a drab color.

This brings us to the all-important blind. There are half a dozen types. The best for my money is the reed, grass or cedar blind built on a platform out over the water. There are several portable reed blinds on the market that are dandies, especially for hunting farms and wild areas. You can also make your own from reed mats, the kind sold for fences on smart lawns. Add a few cattails and leaves and you've got what the doctor ordered for good shooting.

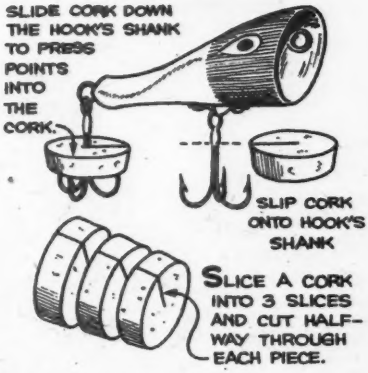
Other blinds are pits in the muck at low tide, rock pits and upturned roots of large trees.

The right gun is very important if you want clean kills. I use a 12 gauge semi-automatic that stays on target shot after shot. The choke is modified and the barrel 28 inches. The gun shoots 2¾ inch magnums and I use #4 shot, but have killed many geese with #6. A good goose hunter waits till the birds are within 40 yards. Learn to judge how far away the various geese are. This can be done by staking out life-sized decoys of honkers, snows, speckled bellies and blues (all are different sizes) and learning to tell at a glance how far away each [*Continued on page* 183]

SPORTS TIPS

BY HAL SHARP

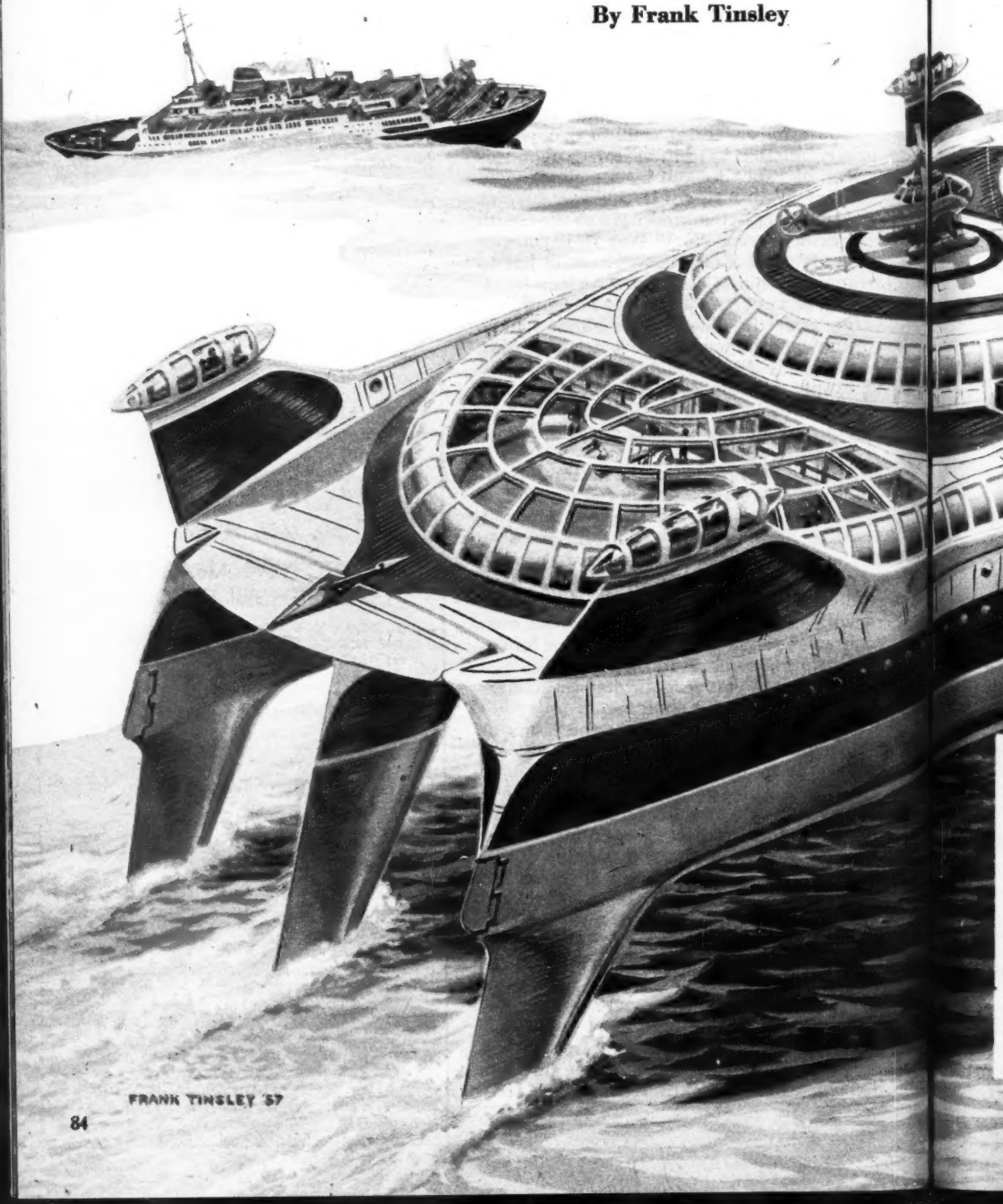
PROTECTION AGAINST PLUGS' TREBLE HOOKS



IF BAIT CASTING OR SPIN-FISHING LURES WITH TREBLE HOOKS ARE NOT KEPT IN INDIVIDUAL COMPARTMENTS OF A TACKLE BOX, THEY BECOME A TANGLED NUISANCE IN THE BOTTOM OF THE BOX. ASIDE FROM DAMAGE TO PLUGS' FINISH, FINGER INJURIES MAY RESULT FROM SEPARATING PLUGS. THE CORK PROTECTORS PREVENT TROUBLES.

Water Wings For Ocean Liners

By Frank Tinsley



SKIMMING waves at 100-mph cruising speed, hydrofoil-equipped liners will put Europe only two days away via water.

THE Flying Fish is built for speed. You can sense it just by looking at her. The familiar tiers of open decks, the topside rows of conventional lifeboats, the towering masts and obtrusive funnels of the conventional ocean liner are missing. You notice instead the rounded glass deck enclosures, the submarine-type conning tower and the rakish stern fins with their bullet-like dock bridges.

This ship is different. Her broad beam and twin catamaran hulls indicate tremendous stability. The slick superstructure promises super speed and the trim silhouette embodies streamlining you never imagined would be on a huge ocean-going liner.

MI predicts that in the not too distant future ships such as this, equipped with hydrofoils, will skim the sea lanes carrying passengers in luxurious comfort at 100-mph cruising speeds! The tried and proven

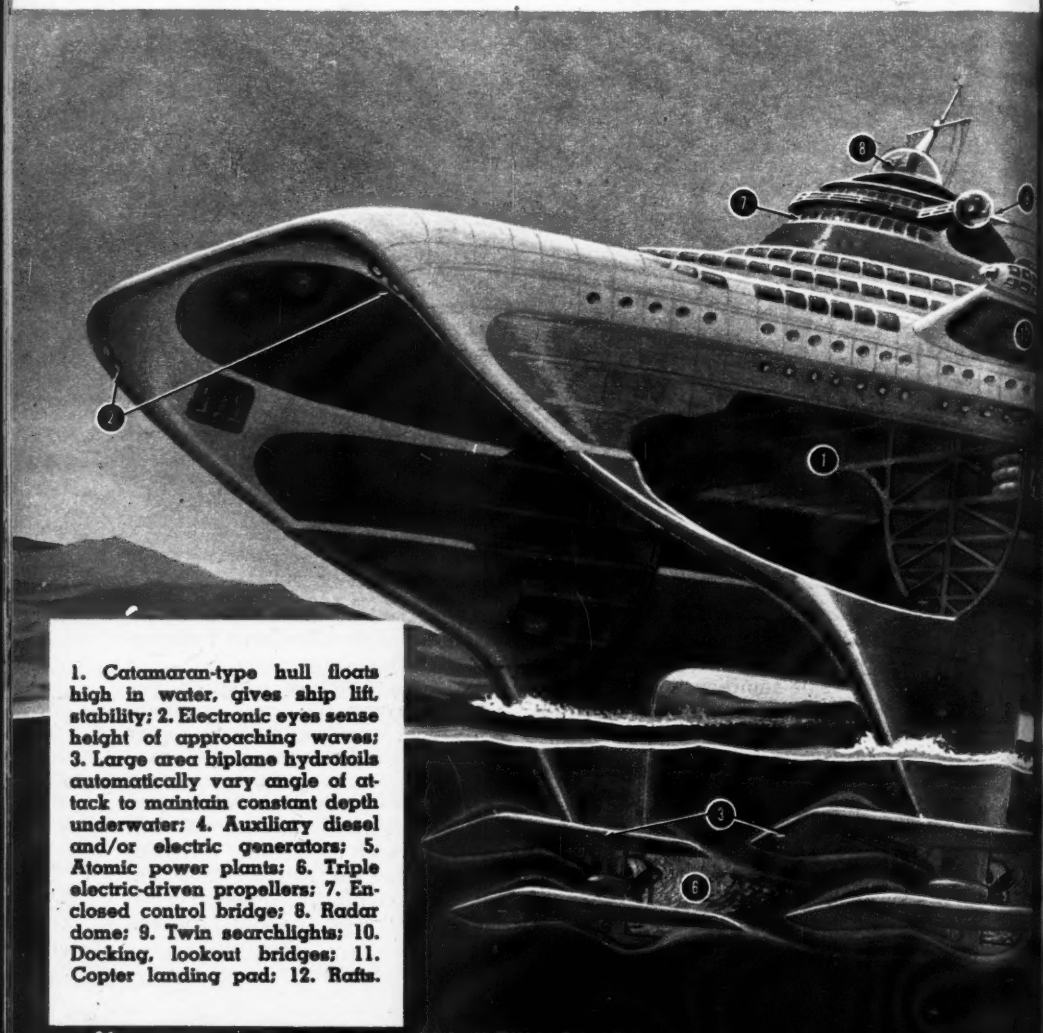
concept making this flying ship possible is in the water wings or hydrofoils which have been called the "first real advance in naval architecture since steam took over from the sail." The hydrofoil is literally a wing that flies through the water. Actually, this concept of supporting a ship on subsurface water wings dates back to 1905 when the first hydrofoil patents were issued.

Many countries experimented with hydrofoils through the years but the one trouble that plagued the successful adaption of them was rough water. They worked fine under smooth surface conditions but if the sea kicked up, it wasn't safe to be aboard a boat equipped with them.

Christopher Hook, an English inventor, finally solved the rough water problem with a unique mechanical wave-sensing device that made it possible to control the angle of the foils underwater and maintain them at a constant depth at all speeds and under varying surface conditions.

Meanwhile, the hydrofoil has had a renaissance abroad. European nations are all busy with experimental models and a number of medium-size boats are actually in service.

The hydrofoil finally seems to be on



1. Catamaran-type hull floats high in water, gives ship lift, stability; 2. Electronic eyes sense height of approaching waves; 3. Large area biplane hydrofoils automatically vary angle of attack to maintain constant depth underwater; 4. Auxiliary diesel and/or electric generators; 5. Atomic power plants; 6. Triple electric-driven propellers; 7. Enclosed control bridge; 8. Radar dome; 9. Twin searchlights; 10. Docking, lookout bridges; 11. Copter landing pad; 12. Rafts.

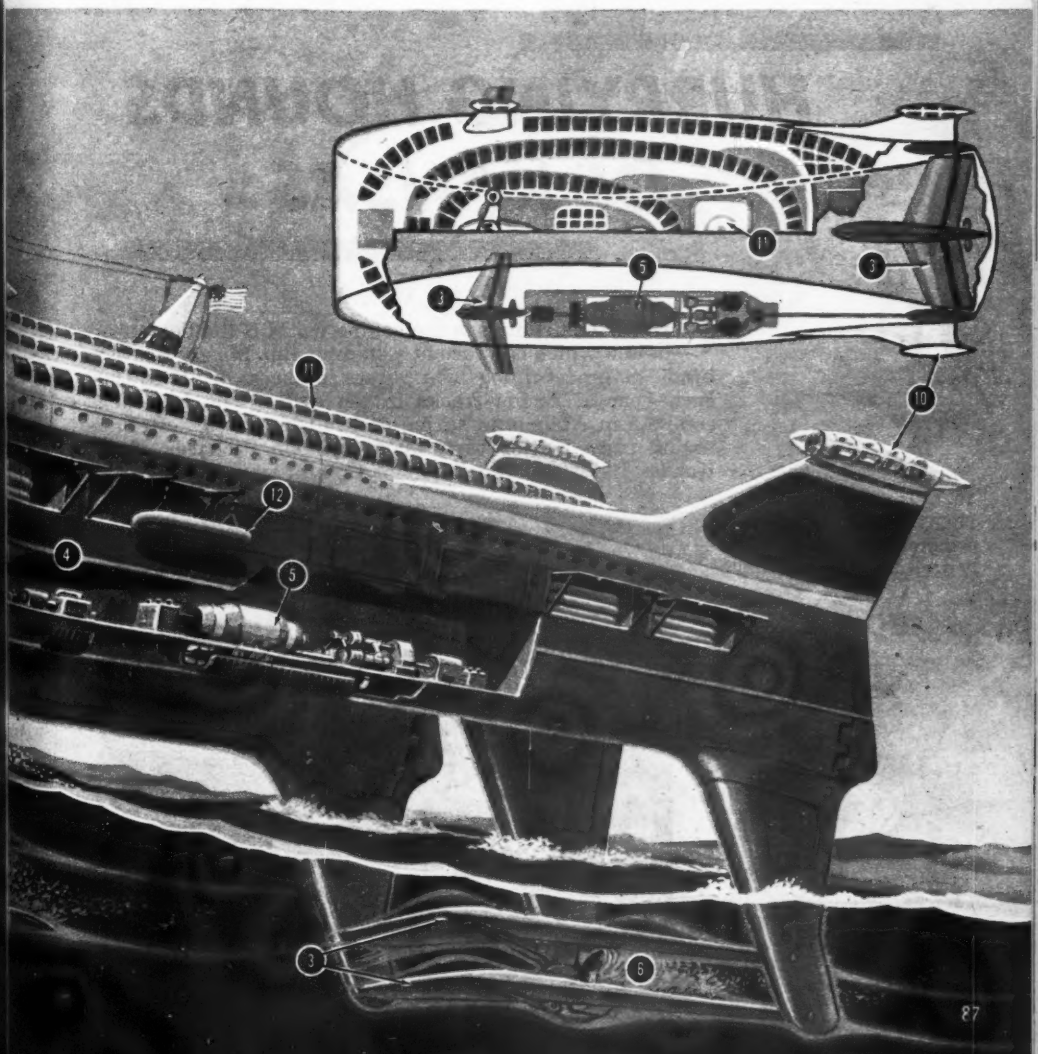
FRANK TINSLEY '57

the verge of acceptance. One U. S. admiral has envisioned its use on aircraft carriers. "Imagine a flattop that can go twice as fast on the present power, while providing a far more stable flight platform," he said.

MI has translated the advantages of the hydrofoil into peacetime use, presenting the future hydrofoil ship as an express liner. Twin-hulled for speed and stability both afloat and "aflight," it saves weight by the lavish use of light metals and materials. This, plus its 100-mph cruising rate, permits relatively smaller lifting areas and overcomes the problem of overlarge foils.

The biplane arrangement makes them still more compact and the substitution of electronic wave-sensing gear for Hook's mechanical wave-sensing device permits cleaner design and less docking difficulty. Triple underwater propellers and rudders, driven by twin atomic and/or electric power plants, save on fuel space and greatly increase maneuverability.

A single class ship, the Flying Fish uses advanced ideas already in use—like life rafts in enclosed compartments near the waterline instead of lifeboats, for instance. MI's dream boat is a sound concept of ocean travel in the future. •

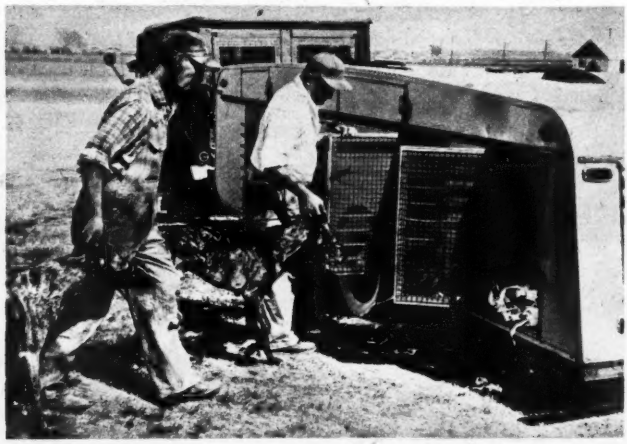


JACK RABBIT on run is given 200 to 250-yard head start in the National Coursing Meet.

HURRYING HOUNDS OF KANSAS

CHAMPION runner in the canine world is the fleet greyhound which can race at a 40-mph clip. Mostly Kansas-bred, the graceful dogs win purses in excess of $10,000,000 each year at racing tracks in ten states. The best dogs compete in Abilene in spring and fall in a series of elimination runs. Photos were taken by Don Richards of the Kansas Industrial Development Commission. •

TUGGING at their leashes, two greyhounds impatiently wait their go at rabbit.



RUNNING account of race is dictated and results carefully recorded by the NCA officials.

RACES OVER, slender dogs are loaded in specially-designed trailers for trip home.

DANGER!

By Lester David

Appliance Repair Crooks at Work

NOT long ago my wife took our electric broiler to an appliance repairman to find out what was wrong with it. Next day the repairman called up and reported that the heating element was shot and replacing it would cost us $15.75. I got it back and just out of curiosity I took it down to the basement. I found I'd left the cord up-

BOWL HEATERS develop loose connections. Remove screw at back of frame and look for frayed wires, breaks, worn insulation. Polish reflector. These simple steps may save you a heavily padded repair bill.

SMALL VACUUMS wear out motor brushes fast: keep extras on hand. Screwcap that holds brushes on this one removes with screwdriver. Blades, right, need regular cleaning of dust, hair, etc.

stairs. So I tried the broiler with another cord and—that's right, it worked fine. The trouble was a defective plug.

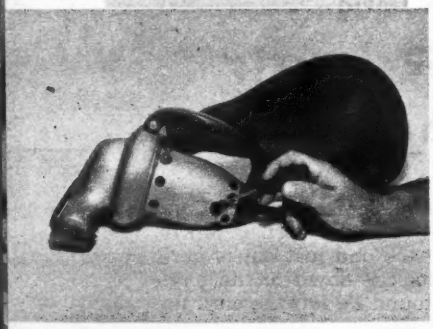
That story has a familiar ring to all of us—yet again and again we let ourselves get hooked. The gyp repairman, in this age of household appliances, is getting to be a national problem. According to Victor H. Nyborg, president of the Association of Better Business Bureaus, the chief victims are women, most of whom know how to push the button but little more about the gadgets they use daily. A good example is that of the housewife who was told her dishwasher needed repairs that would cost $48. The repairman charged $5 for the diagnosis. A neighbor then put the unit in perfect working order by fixing a short circuit—cost of materials: 35 cents.

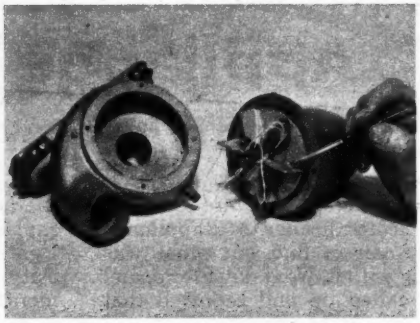
In another case an agent of the Better Business Bureau posed as the sucker. He called a repairman, about whom many complaints had come in, to look at a refrigerator. The unit was in good working order but a single wire had been disconnected. The repairman came, said he'd have to take the box to his shop and give it a thorough examination. It came back with a lengthy itemized bill that came to $43.20. The motor had been painted, oil had been put in. And the wire had been connected.

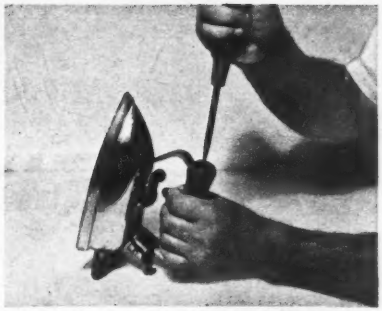
Anyone who owns a home today is a mark for the repair crook. How do you beat this racket? First, get to know your repairman. Never deal with a wandering tinker and don't fall for a fake "Authorized Service Representative." The big appliance houses haven't caught up yet with all the people using their names.

Second, remember that in nine cases out of ten it's the cord or the plug. Try the unit with another cord first of all.

Third, get to know the things that are most likely to happen to your appliances. An iron, for instance. Open up a faulty iron and look for loose contact points or contact points that are pitted and burned. If you find such a condition scrape the points clean and force them up a little. A stain on the soleplate







IRONS suffer mostly from worn connections—usually in the cord. To check iron, remove screw in handle, disassemble. Cord may be checked for shorts with a Handitester device or similar instrument.

of the iron, from soap or starch in improperly rinsed clothes, will cut down its efficiency. With an aluminum soleplate, water and fine steel wool will take out the stain; then the soleplate should be waxed while warm with beeswax or a bread wrapper. A corroded or scratched soleplate should be buffed by a repairman.

With a balky toaster, the first thing to look for is crumbs and accumulated sugar and raisins. Clean out the inside, scrape the wire bread guides and then see if the toaster doesn't work. If a toaster won't heat up there may be a broken wire in the heating element. If you find one upon opening the unit, it can be fixed with a mending sleeve if the break is near one of the terminals.

If you can see no obvious break, the element may be shot. But before you assume this to be true, have the repairman test it in your presence with a circuit tester. If the bulb doesn't light up the element does need replacement. As for toasters that don't produce the right shade of toast, they often have a wheel underneath that adjusts the unit to local voltage.

Vacuum cleaners fall prey to simple ailments that can easily be cured at home. Emptying the bag always improves performance; there have been cases of repairmen making money for doing just that. Another common trouble is worn brushes. This means the brushes should be replaced or, on certain adjustable models, moved down closer to the rug.

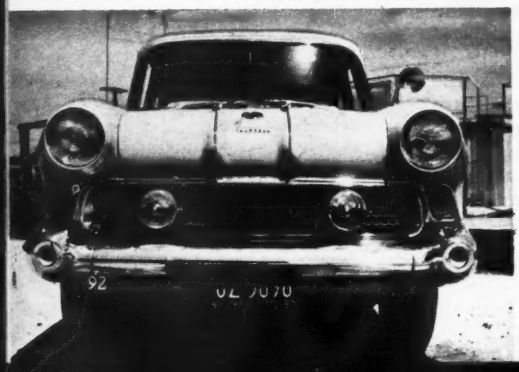
If the motor doesn't mote and the cord is okay, very likely the carbon brushes need replacement. They're in a couple of square tubes inside; if the brushes are worn they should be replaced. New ones should slide accurately into the holders; if they stick to the sides rub them gently with fine sandpaper. Be sure the ends of the brushes are curved to conform with the commutator disk—that's the part against which the brushes bear. Also make certain the springs have enough tension to bring the brushes in contact with the commutator. Another cause of motor [*Continued on page* 183]

TOASTERS need regular cleaning with brush to remove crumbs, raisins, etc. Wire guides of breadholders stick unless hardened accumulation of bread is regularly removed.

McCAHILL TESTS

THE VAUXHALL VICTOR

By Tom McCahill



"A fine little sedan of quality," says Tom of GM's entry in small-car market.

PERHAPS the surprise of the forthcoming automotive social season will come when Old Hardknocks Chief Pontiac dons a monocle and a silk topper. This will be the formal introduction in Pontiac salesrooms throughout the country of the Vauxhall Victor, General Motors-owned and British-built.

I can just see Pontiac's eager salesmen reading the well-filled instruction book which puts Pontiac's own instruction books to shame. Some of the boys may have to take a course in London-type English to translate the following entries: bonnet lock control, de-icing units, carpet brush (an accessory),

"CORNERING ability is good," says Tom of sedan which has a suggestion of GM looks, especially around twin "flutes" on hood.

PERCHED on his boat, Tom studies GM-owned, British-built Vauxhall to be sold by Pontiac.

boot light, radiator blind, and so on. Can't you picture a hard-bitten Texas service manager (who was selling Pontiacs when they were Oaklands) reacting to a Vauxhall customer (who has read the book) when the customer says, "Look, old chap, would you kindly check the button on my screenclean?" According to the instruction book, "Screenclean gives clear vision at the touch of a button. It is a suction washing device which throws two jets of water to the swept arcs of the screen." It goes on and on—but I'll guarantee that Lone Star service manager would be a lot happier if the guy in the Vauxhall just said, "Hey, bud, something's wrong with my windshield washer button."

Another splendid Approved Accessory, right out of the book, is "The Vauxhall Honeycomb Sponge—Taken from the pick of the Mediterranean sponge crop." And I was also much impressed with Vauxhall's own description of the "Bonnet Emblem Kit." This, it says, "Consists of two attractive traditional Vauxhall flutes, with modern styling." Men, you simply can't struggle along without a kit of Vauxhall flutes...

To leave the serious vein, let's analyze the Vauxhall itself. Years ago, this was one of the most hell-for-leather competition road cars in the world. It

Photos of 1958 cars in November MI.

Mail for McCahill

Uncle Tom's very popular question-and-answer column begins on page 103. Don't miss it!

BOOT passed the rigid inspection of Jim McMichael, America's beloved trunk tester.

VICTOR sports chrome-lined rear windows, plastic upholstery that is easy to wash.

FAKE "dual" exhaust is pointed out by Tom.

SPECIFICATIONS

MODEL TESTED:
English Vauxhall Victor Super

ENGINE:
4 cylinder, OHV; bore 3.125 inches, stroke 3.00 inches; maximum torque 84.5 foot pounds @ 2400 rpm; brake horsepower 54.8 @ 4200 rpm; compression ratio 7.8 to 1

DIMENSIONS:
Wheelbase 98 inches; overall length 166.5 inches; tread 50 inches front, 50 rear; width 63 inches; height 61.34 inches; weight 2,150 pounds; standard tire size 5.60x13; gas tank 9.6 gals

PERFORMANCE:
0 to 30 mph, 5.9 seconds
0 to 50 mph, 18.1 seconds
0 to 60 mph, 25.7 seconds
Top speed, 75 mph

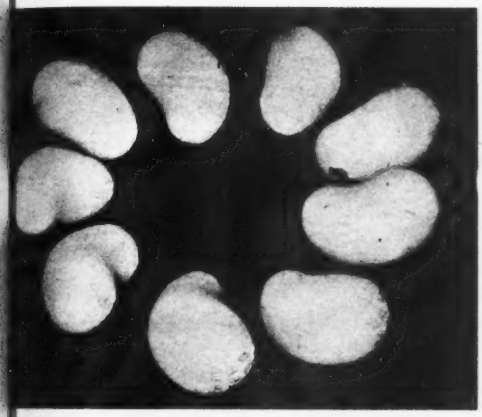
SPEEDOMETER ERROR:
At 60 mph on speedometer, actual speed 58.8 mph

built up an international reputation only matched by such British cars as the Bentley and others of that grade. In its emasculated version it now emerges as a small European sedan and its promotion on this side of the water merely proves that the success of our own smallish Rambler and the phenomenal sale of Germany's Volkswagen on these shores have not gone entirely unnoticed around the conference board at GM. The Volkswagen isn't stealing the wind from the sails of GM's new cars one mite. But soaring VW sales have not helped business on the GM used-car lots.

Just a short time ago, four out of five automobile buyers in America purchased used cars. If this hadn't been so, instead of six million production might have had to be stepped up to as high as 20 or 30 million new cars per year. But in recent years many erstwhile used-car buyers have tired of tooling around someone else's cast-off finery and have decided on a new car or nothing. To many of these, the $1,500 Volkswagen was the answer. With the VW he could be the owner of a new car utterly different from American products. Strangely enough, many Volkswagen cultists soon adopted a smug and superior attitude toward run-of-the-mill American cars. The VW's 35-plus miles to a gallon was not hard to take, nor was ease of handling, reliability and the fact that it is more trouble-free than any American car has been for years. Tie all this up with the fact that GM's Cadillac, once the King of [*Continued on page* 166]

Banana-Shaped Eggs

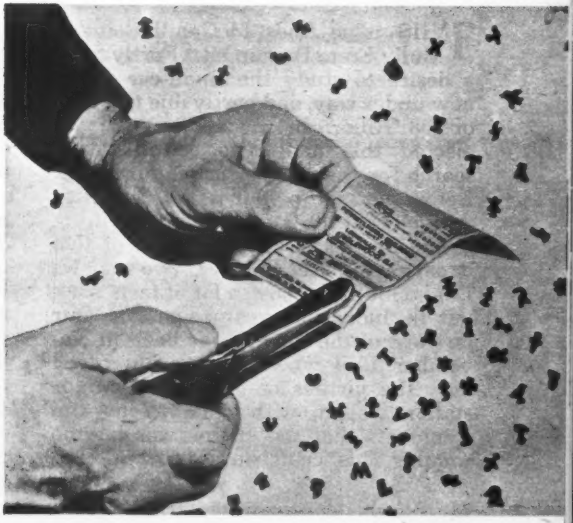
MYSTERY EGGS that baffled Scotland Yard showed up for sale in the village of Poole, Dorset, England. Sixteen banana-shaped cackleberries were found by local farmer.



CONFRONTED with ridiculous breakfast, guilty hen is noncommittal. "I can't help how they come out," she told Farmer Wilfred Waterman. "I just work here."

PUNCHLINES

THE railroad conductor's punch, in use since 1852, is as good as his signature. Better—it's faster and can't be erased. Each conductor's punch makes a distinctive hole; each railroad has a file of holes and conductors' numbers. Typical hole designs are the top hat, moustache, duck, goat head, boxing glove, Scotch terrier. Picture below shows punches being oiled in Maine Central repair shop. At right, sample punch holes. Photos from *Steelways* magazine. •



McCAHILL TESTS

THE MORRIS 1000

By Tom McCahill

THIS issue finds McCahill doing a Bully From Britain bit. Partly from a desire to study the small-car rassle now under way, and partly due to a lack of '58 American models to test, we elected this month to continue our search for the perfect little automobile. Before getting up your hopes, I'd better tell you that the Morris 1000 isn't it.

The Morris is an old friend of this department. Reading over two reviews I did on it in the past, a lot of facts stick out like bloodshot eyes on a pastor. Our last test of the Morris was back in November 1954 when I positively raved over the virtues of the Morris Minor station wagon, with reservations and comments that the engine was far too small. This criticism is now altered slightly. The engine, which in '54 was 49 cubic inches, now displaces 57.85—or about as much as an undernourished duck egg. Whether the Morris could be considered the World's Largest Midget or the World's Smallest Giant is a matter for serious conjecture.

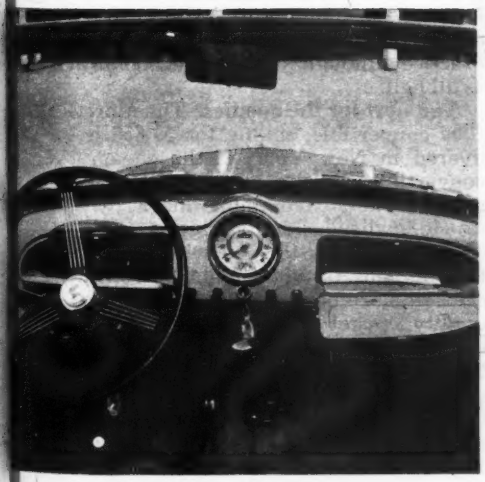
Frankly, the new engine has a lot more whack than before though it is doubtful that it would break your back if it should hit you at full bore. Zero to 60 mph now takes 25.9 seconds; 0-50 mph takes 16.8, which only looks good when you compare it to the old figures. Three years ago 0-60 mph took 36.5 seconds, so the drop has been more than ten seconds in getting to 60 mph.

Before I tell you about the goodies—and believe me, the Morris has some—

Tom calls this British car a good buy with its "ease of handling, reliability and reasonable performance."

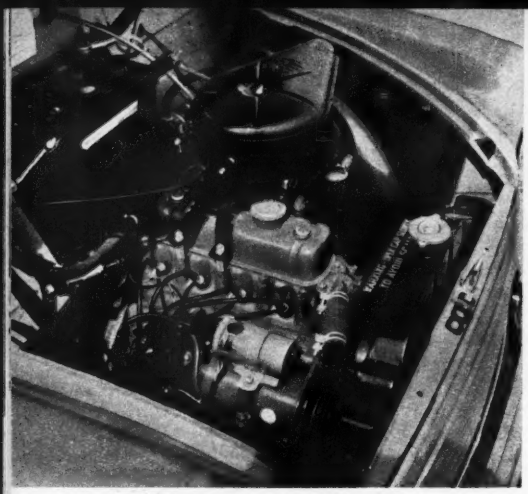
"MORRIS 1000 convertible, selling for $1,659 delivered in New York, is the cheapest convertible anyone can buy."

LITTLE M is almost half the size of big Imperial but the British buggy travels almost 40 miles on a gallon of gas.

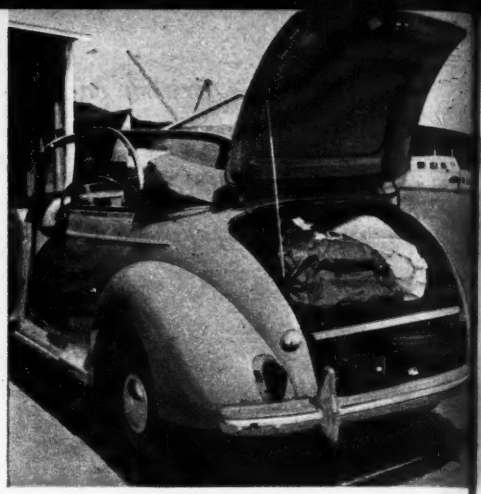


ROOMY glove compartments hog dash. Horn honks by pushing on turn indicator.

"STEERING is excellent and cornering and roadablity qualities are tops," says Tom.



ENGINE is 4-cylinder job increased from 49 cubic inches in '54 to present 57.85.



COME OUT, come out wherever you are, Jim McMichael. Oh, well, trunk space is okay.

let's finish with this rack job. The seats are definitely not the quality items they once were. This was easy for me to prove, as the two front seats in my Jeep came off a Morris Minor (before the then-owner allowed it to get sawed off at the windshield several years ago). After the accident I bought these seats for 35 bucks. They are semi-bucket, twice as thick and twice as comfortable as the current equipment. In other words, you might say that I'm a connoisseur of what Morris seats should be. These definitely are not it.

This is a car for a smallish man or woman to enjoy. The instruction book tells you, "If the range of adjustment of the seat is insufficient to suit drivers of exceptional stature, the seat may be repositioned on the floor." Well, it looks like I'm a guy of "exceptional stature" because the seat would be set back a good three inches if I owned one of these blighters. Another beef is that in the convertible we tested the rear windows are fixed, meaning the only way to get them down is with a hammer—and this goes for the frame around the windows as well. This is not the best convertible practice although it must be economical as all hell.

And now for the goodies. The Morris 1000 convertible, selling for $1,659 delivered in New York, is the cheapest convertible anyone can buy. If you scour the land from Mamaroneck, N. Y. to Hollowhead, Montana, this is *the cheapest.* Wrap this up with the fact that, in spite of what might be considered snide remarks by me, it is a good quality bucket—not as good as before but still good. The performance is way above former models'. The steering is excellent, quick and, what's even more important, accurate. The cornering and roadability [*Continued on page* 174]

SPECIFICATIONS

MODEL TESTED:

Morris Minor Convertible

ENGINE:

4 cylinder, OHV; bore 2.478 inches, stroke 3.00 inches; brake horsepower 37 @ 4750 rpm; compression ratio 8.3 to 1

DIMENSIONS:

Wheelbase 86 inches; overall length 148 inches; tread 50⅝ inches front, 50 5/16 rear; width 61 inches; height 60 inches; weight 1,475 pounds; standard tire size 5.00x14; gas tank 6.5 gals

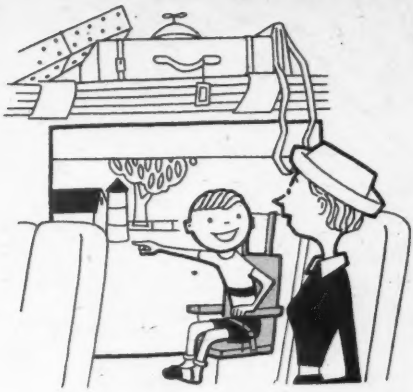
PERFORMANCE:

0 to 30 mph, 7.2 seconds
0 to 50 mph, 16.1 seconds
0 to 60 mph, 25.9 seconds
Top speed, 73-74 mph

SPEEDOMETER ERROR:

At 60 mph on speedometer, actual speed 63.0 mph

BRUSH fits tube and squirt can so you can apply shaving cream easily without messing up your hands. James Mantello, Troy, N. Y.



FOLD-UP tot chair provided by train, bus companies would fit over seat backs, hold Junior. Jeanne Urban, W. Hartford, Conn.

INVENTIONS WANTED!

Is there a gadget you think should be invented? If so, send its description to Inventions Wanted Editor, MECHANIX ILLUSTRATED, 67 West 44 St., N.Y. 36, N.Y. Each one printed will be awarded $5.

TINY FLATTOP TANK for soldiers which would permit them to move virtually unseen over any terrain. Freddy Cota, Merced, Calif.

TELESCOPIC TONGUE on trailer which would enable struggling Sunday yachtsmen to beach, launch boats. F. Sprague, Erie, Pa.

INSTANT COFFEE PELLET for the bleary-eyed early morning riser who needs time to wake up. Rand Lennox, Garfield Hts., Ohio.

Will You Heat With Electricity?

By C. Lester Walker

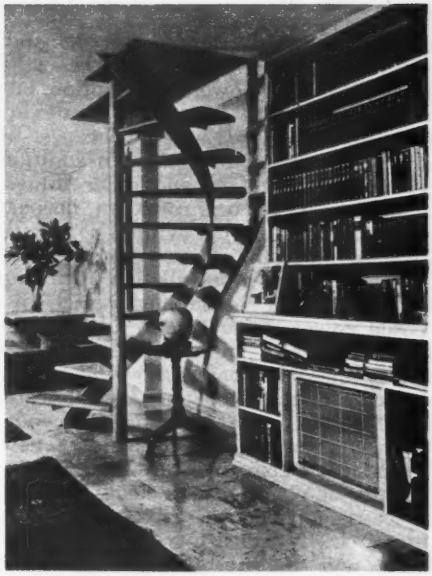
AMERICANS will see a big battle in the next few years over how they heat their homes. Last year some 300,000 families kept warm and comfortable in houses that boasted neither furnace nor oil burner; there were no radiators and no chimneys. They did not use oil, coal, gas or any of our traditional heating fuels. Instead they heated their homes with electricity—by means of a new system called "resistance heating." More families will do it this year.

Electrical resistance heating is old in principle. It works like your electric toaster: heat is produced by the resistance an electric current encounters when it travels over a wire (or for that matter over any conductor). The heat warms the wire, which throws out the warmth in every direction.

There are now three or four thoroughly tried and proved ways to make this sort of heat warm your house effectively. One way is to insulate lightly the heat-bearing wires and bury them in the plaster of the ceiling or the concrete foundation beneath the floor. Another method utilizes panels of special glass set in the walls of a room above or along the baseboard. Ribbons of aluminum

WHERE DO YOU LIVE?

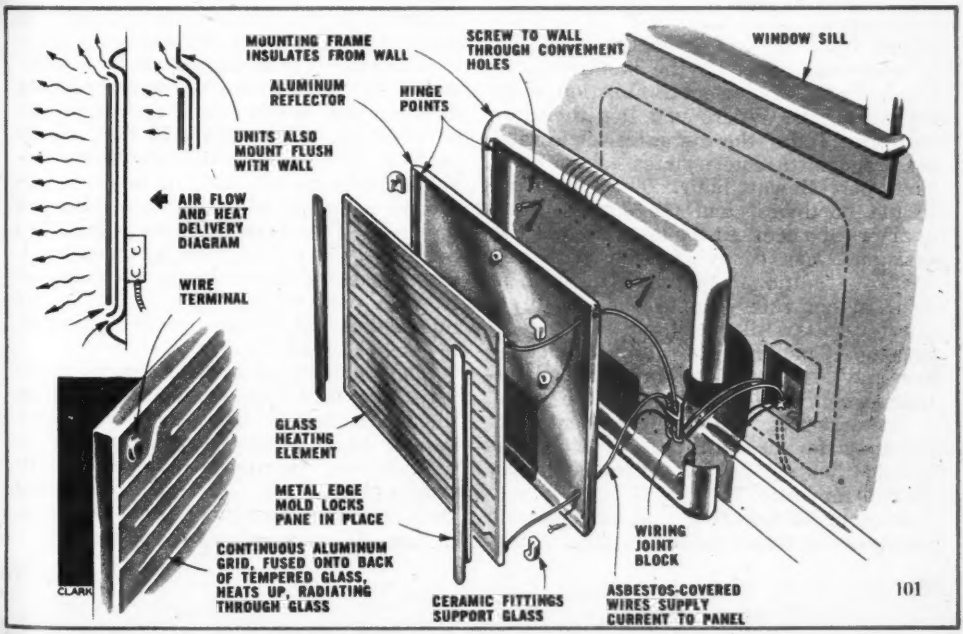
Here are sample billings (actual one-year charges to actual householders but with no indirect savings allowed for) from widely separated sections: Liberty, Neb., eight-room house, $222.21; Taunton, Mass., ten-room house, $123.06; Detroit, Mich., six-room house, $120.01; East Williston, N.Y., seven-room house, $239.27; Wind Lake, Wis., six-room house, $258.63; Ste. Adele en Haut, Quebec, eight-room house, $229.78; Spokane, Wash., five-room house, $103.54.



RADIANT PANELS may be installed in wall, baseboard or, as shown, part of bookcase.

are fired onto the back surface of the glass. These heat up and warm the glass panels which then beam out the heat. The glass panel method was originally developed to heat the underground forts of France's Maginot Line. Last winter it proved what it can do in a really cold climate. Installed in weather stations in the antarctic, it kept buildings warm and cozy.

If electric resistance heat is so effective, why haven't we seen more of it before? The chief reason, say its proponents, is that the electric power companies in most of the United States have been reluctant until recently to promote it because they believed they lacked enough electricity to meet [*Turn page*]



any considerable new winter demand.

Winter, of course, had always been the season of heaviest power consumption; but then about 1953 a big switch came for many companies. Largely because of more air conditioners in use, in addition to deep freezers, fans and other things, summer power consumption became manyfold greater than winter consumption. To meet the demand, many companies put in new installations utilizing new production techniques which increased power output and resulted in an actual surplus of winter power. Consequently these companies now need new winter business to consume the kilowatts available when the summer air conditioners are turned off. To get the new business some companies are offering special rates on electricity for heating.

Because an electric resistance heating system chiefly consists of wiring, heat panels and thermostats—no pipes, air ducts, blowers, boilers, tanks or other paraphernalia of conventional heating systems—it usually costs much less to install than a conventional system. The rule of thumb is that in our northern states a conventional heating plant runs to about ten per cent of the total cost of building a house, an electric resistance system from two-thirds to one-half as much.

But it's sometimes another story on cost of operation. Where electric rates are high, units of heat from electricity cost considerably more than units of heat obtained from oil, gas or coal, though this is somewhat offset by the inefficiency of fuel burning—imperfect combustion, sooty furnaces, etc. Where you live therefore matters. Today the highest electric rates are in the northeastern states—about three cents per kilowatt hour. The lowest are in the northwest and the south—three-quarters of a cent. At the low rates electric resistance can easily compete with any form of traditional heating. And even at some higher rates—up to one-and-three-quarter cents a kilowatt hour—it can compete too. Though unit for unit the electric heat may cost more, it offers certain advantages which will help balance the score.

One advantage is that all the heat units you pay for are utilized. Electric resistance heating is 100 per cent efficient; there is no waste.

Another advantage is that most electric resistance systems produce radiant heat and this warms the occupants of a room directly, like the rays of the sun. Other heating systems warm by convection—that is, they first warm the air, which circulcates and *then* warms the occupants. In a radiant-heated room people can be comfortable at lower air temperatures. In a laboratory room lined with copper foil to make maximum use of radiant heat, people find themselves actually too warm when the air temperature is barely 50 degrees. (Just as outdoors in winter, if you stand in direct sunlight, you're warmer.) And with electric resistance heat, rooms can be warmed independently; there's a fuel-saving thermostat in every room. It can be kept turned low in bedrooms and other part-time rooms when not occupied and turned up when the rooms are used, since radiant heat provides warmth almost immediately.

Other factors that help resistance heating compete are: no yearly furnace-cleaning charge; no maintenance contract since there are no moving parts to break down and no replacement necessary—like the home electric wiring system, electric heating is a life-time installation; lower cost of operating household appliances since large users of current get it at a lower rate. One Michigan man who kept accounts found that in his case these indirect savings amounted to $100 a year.

Figured that way, operating costs of electric resistance heating compare favorably with those of other systems over large parts of the United States and some parts of Canada. Those homeowners I questioned in areas where resistance heating does not beat out in cost of operation that of other systems, often said they gladly paid the difference for the new heat's special advantages. It made no noise; it was always clean and odor-free since it burned no fuels. One housewife declared: "It's healthier. No oily soot settles on my wallpaper and draperies. Plants grow better. Now we even raise orchids." Put in her husband: "And I have less sinus trouble, fewer head colds."

Many owners of non-residential structures, too, find that resistance heat offers them advantages. Schools, hospitals and motels have discovered that the individual-room thermostat feature spells sizable economies. A New York office building uses resistance heat because,

[*Continued on page* 176]

Mail for McCahill

Uncle Tom is sorry he can't answer all his mail personally. In this column he'll answer the most interesting letters. Write to him at MECHANIX ILLUSTRATED, 67 West 44th St., New York 36, N. Y.

● *In a recent issue of MI someone asked a question about a Lever motor. When I was in high school in Maywood, Ill., in 1928-1929, my auto mechanics class paid a visit to the shop of the Powell Lever Motor Company on Lake Street in Oak Park. At the time I thought he had quite a gimmick. Instead of the big end of the connecting rod fastening to the crankshaft, it was fastened to a lever anchored to the wall of the crankcase. A link then went from midpoint of the lever on down to the connecting rod. Advantages claimed: very low rpm—around 2000; an 8-in. stroke utilizing the full explosive power of each charge; and a good mpg figure (around 30-35). They were handbuilding the motors and, of course, with an 8-in. stroke they were very deep and thin. I recall a ride in one of these cars and was surprised at the quietness of the engine. As a steady reader of MI, many thanks for your reports and for your delightful Mail For McCahill department. P.S.: As the owner of two Lambrettas, five Whizzer motorbikes and a Hudson, I find the Lambretta conveying me 99 per cent of the time in New York City traffic. With no parking problem, 100 mpg and no traffic delays I can do radio, TV, stage and film work simultaneously.*

Jay Barney
New York, N. Y.

Jay Barney is the guy who's been trying to make Helen Trent of soap opera fame for years, with surprising lack of success. While not pitching his charms at Trent, he's been on the Bilko show, has been leading man to Tallulah in "Eugenia" and has played other roles too numerous to mention. Reader Barney is not only one of the country's top actors today, but as a connoisseur of top magazines he has no peer.

● *My wife and I have been arguing for six months. She insists that our new 1958 car be all black, and I want white because it'll be cooler for hot weather use here in Texas. I've been telling her black is no color for Texas but she thinks I'm crazy. How about settling this for us?*

H. L. O.
El Paso, Texas

You won't catch me getting into any family squabbles but I can assure you of one thing: one of you is a full-blown nut—and you look very sane to me.

● *Your reader Arnt Brodtkorn wrote in MI of April about the price of cars in Norway, which in his opinion is shocking. A new Plymouth, he says, costs $3,714 and a car that is five years old is considered a new car. What would be the opinion of Mr. Arnt if he lived here in Brazil where a new Plymouth costs $23,000, a Cadillac $40,000 and a Ford six years old is sold for $5,000. As you can see, I would be very happy if I could get any new low-priced American car for $6,000.*

Luiz Carlos Costa
Campinas, Sao Paulo, Brazil

Are you referring to Brazilian or American dollars? If American dollars, it might be cheaper for a bunch of you boys to fly North, buy out Chrysler and GM and roll your own!

● *What, in your opinion, would be the single greatest step that could be taken to make all automobiles safer?*

L. B. Dodson
Providence, R. I.

Yank out the engines.

● *You've been touting air conditioning for several years. I went for it this year and on the first hot day I think it was hotter inside the car with the windows up and the air conditioning on full than it was outside. As I see it, you blew 500 bucks of my dough up the chimney.*

Bert Regan
Kansas City, Kan.

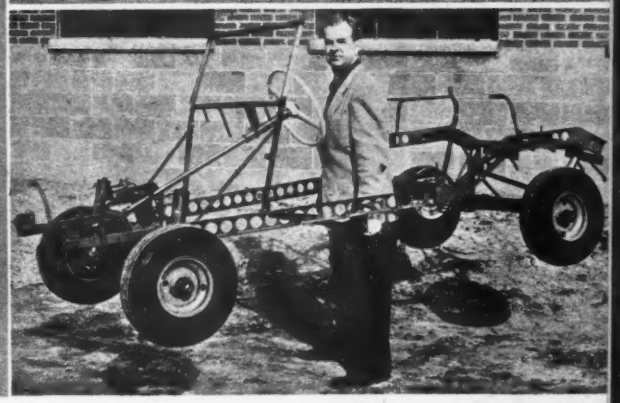
The easiest way I could answer this would be to weasel out and suggest that your unit hasn't been serviced correctly. However, this is probably not the case for the following

[Continued on page 170]

new KING-SIZED midget

TWO BEAUTIES put top on the restyled King Midget, above, at Cypress Gardens, Fla. It is first change since 1951. Photos by Dick Pope.

BEEF on chassis totals 3,237 pounds yet one man can easily lift the perforated steel girder and tubing construction. Car itself weighs about 690 pounds. Engine is 9.5-hp Wisconsin 4-cycle, 1-cylinder, air-cooled job with top speed about 50 mph.



KING MIDGET has 76.5-inch wheelbase, overall 52-inch width. It runs 60 to 75 miles on a gallon of gas. Price at dealer: $850. Factory is at Athens, Ohio.

REAR ENGINE is easily accessible and the independent springing on all four wheels gives the King Midget a fine ride for such a light car.

Tropical BASEMENT

The tropics are one flight south when gardens and palms bloom in this pine-paneled basement.

By Ralph Treves

EVERY day more and more American basements are being renovated. The concept of a basement as an oversized storage bin, laundry and furnace room is rapidly being discarded by today's homeowners who are quick to appreciate the great potential any basement has in the form of added living space.

Steep cellar stairs are giving way to graceful approaches of plywood and pine. The barren glare of the light bulb is being replaced by the restful glow of fluorescents and indirect lighting. Damp concrete walls are disappearing behind trim facades of wood and composition paneling. Even the "obstruction" of lally columns has been turned to good advantage as these steel poles blossom into "palm trees."

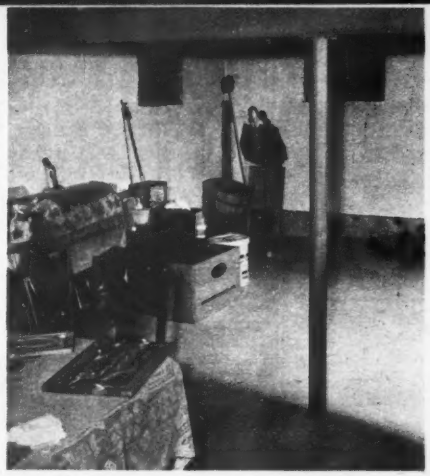
While this article will deal only with the major aspect of basement renovation—paneling the walls—it's a good

idea, before you start on your own basement, to draw up a general floor plan such as that shown on page 112. This will give you some idea as to where the various installations will be placed around the room. Such a plan will also indicate the quantity and type of materials you will require to finish the job.

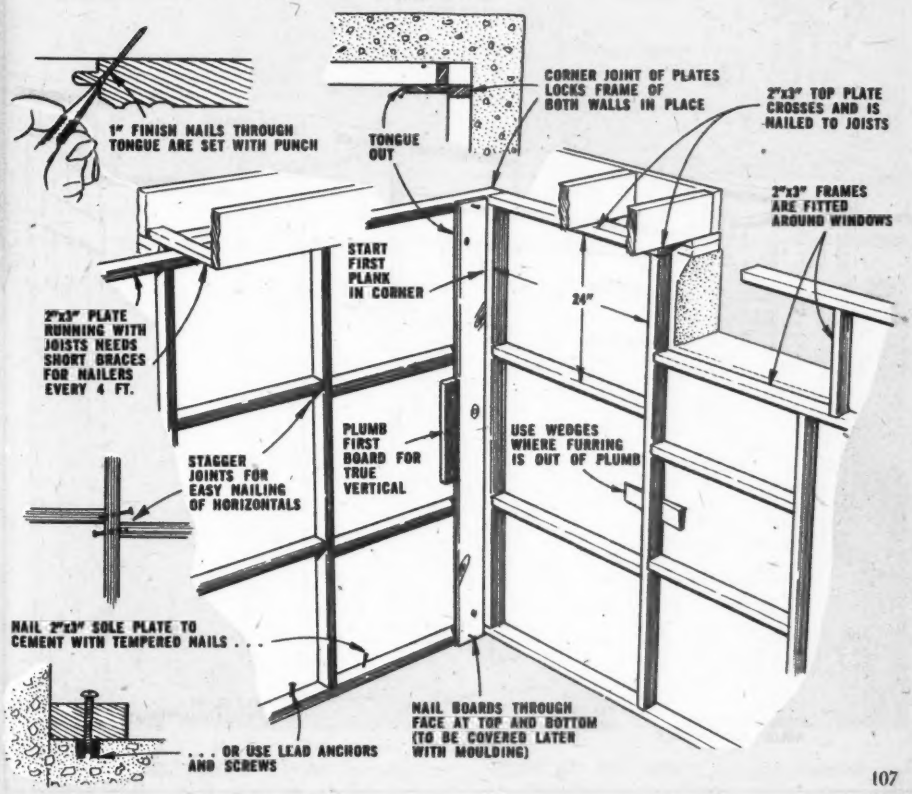
The diagram of the Tropical Bar on page 111 has been "exploded" for easy scanning. This bar will make a colorful addition to any basement finished in this motif. The design may be simplified by omitting the overhead portion of the bar and storing glassware, bottles, etc., under the counter.

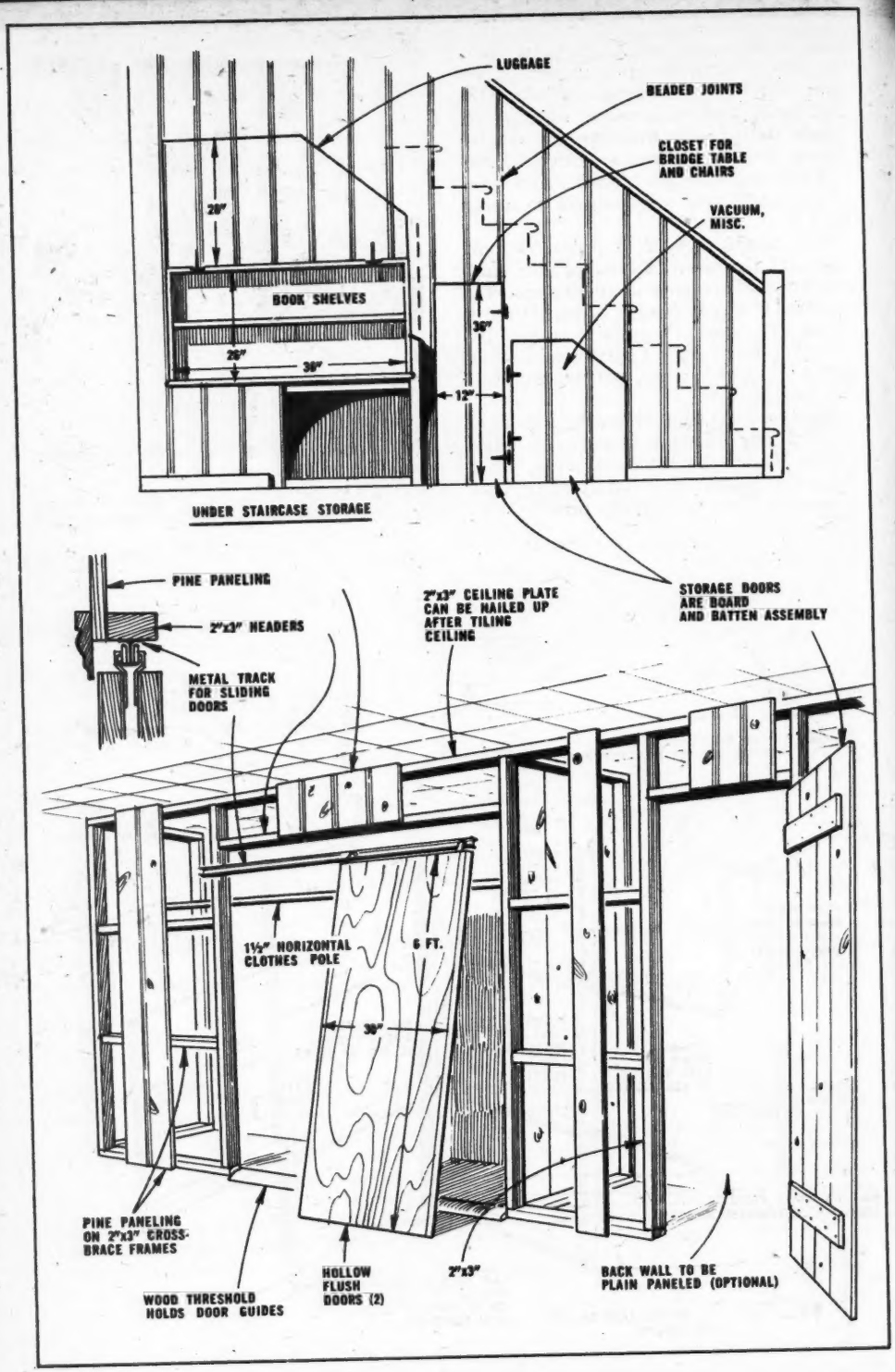
Now let's get to work on the paneling.

Of all the materials being used today in the revamping of basements, none enjoys a greater popularity than that perennial favorite—knotty pine.



SAME BASEMENT as that on opposite page is shown here before the renovation job.




LUGGAGE
BEADED JOINTS
CLOSET FOR BRIDGE TABLE AND CHAIRS
VACUUM, MISC.
28"
BOOK SHELVES
28"
30"
30"
12"
UNDER STAIRCASE STORAGE
STORAGE DOORS ARE BOARD AND BATTEN ASSEMBLY
PINE PANELING
2"x3" HEADERS
METAL TRACK FOR SLIDING DOORS
2"x3" CEILING PLATE CAN BE NAILED UP AFTER TILING CEILING
1½" HORIZONTAL CLOTHES POLE
6 FT.
30"
PINE PANELING ON 2"x3" CROSS-BRACE FRAMES
WOOD THRESHOLD HOLDS DOOR GUIDES
HOLLOW FLUSH DOORS (2)
2"x3"
BACK WALL TO BE PLAIN PANELED (OPTIONAL)

There are a variety of reasons to account for this. Topping the list is its cost: it's about the least expensive wood paneling available—and in North America it's available in great quantities. Knotty pine is easy to install, takes a good finish and lasts as long as the house. This straight-grained conifer is tough too, resisting slivering and splitting when taking nails.

There are four major steps involved in renovating your basement with knotty pine: (1) selecting the pine (2) preparing the wall (3) finishing the boards and (4) installing the panels. Follow these steps through in the order listed and you will be surprised at how fast the job will go.

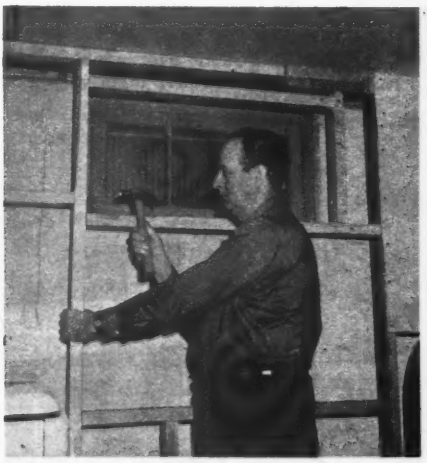
Selecting The Pine

Knotty pine shiplap and tongue-and-groove boards can be purchased in convenient widths of 6, 8, 10 and 12 inches with a milled design along one edge;

WALL STUDS (or furring) should be plumb before nailing; check with a spirit level.

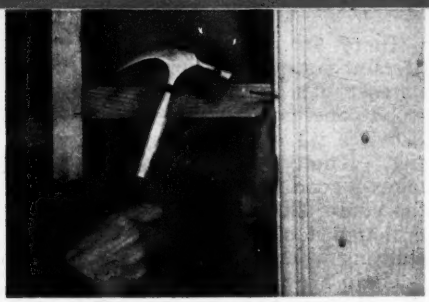
TOENAIL vertical studs to floor plates using stock to hold studs while nailing.

OFFSET HORIZONTAL STUDS for straight nailing and install them every 24 inches.



FURRING OR STUDS around window and door frames must be accurate to take panels.

PREFINISHING will require the use of a finishing sander applied lightly to wood.



SECURE PANELS to studs by nailing diagonally through angle formed by the tongue.

the other edge is beveled to form a V when the panels are butted together. Since both sides of this lumber are planed and sanded at the yard, only a final light sanding is required to ready it for finishing.

Altogether there are eight grades of Idaho white pine to choose from. The three *select* grades are Supreme, Choice and Quality, Supreme being the highest recognized grade. The other two will have very few small, tight knots. Generally, the lumber will have uniform color and texture and few if any minor defects.

The No. 1 *common* grade is Colonial with its occasional smaller-sized knots. Numbers 2 and 3 (Sterling and Standard) will have some pitch blemishes and larger and more numerous knots. Interestingly enough, the last two (and least expensive) of the common grade, with their many elongated branch knots, are often preferred for the rustic quality they lend to a den or other informal room.

Decide whether you want the panels to be of uniform or random width. Mixing widths is a popular technique to imbue a room with a natural character.

Which milled design to use presents another question deserving of some thought. Usually a narrower board looks better with a proportionately narrow pattern.

Having purchased your panels, stack them inside the house to allow them to become conditioned to the atmosphere for a few days. Stack the lumber with thin wood separators between

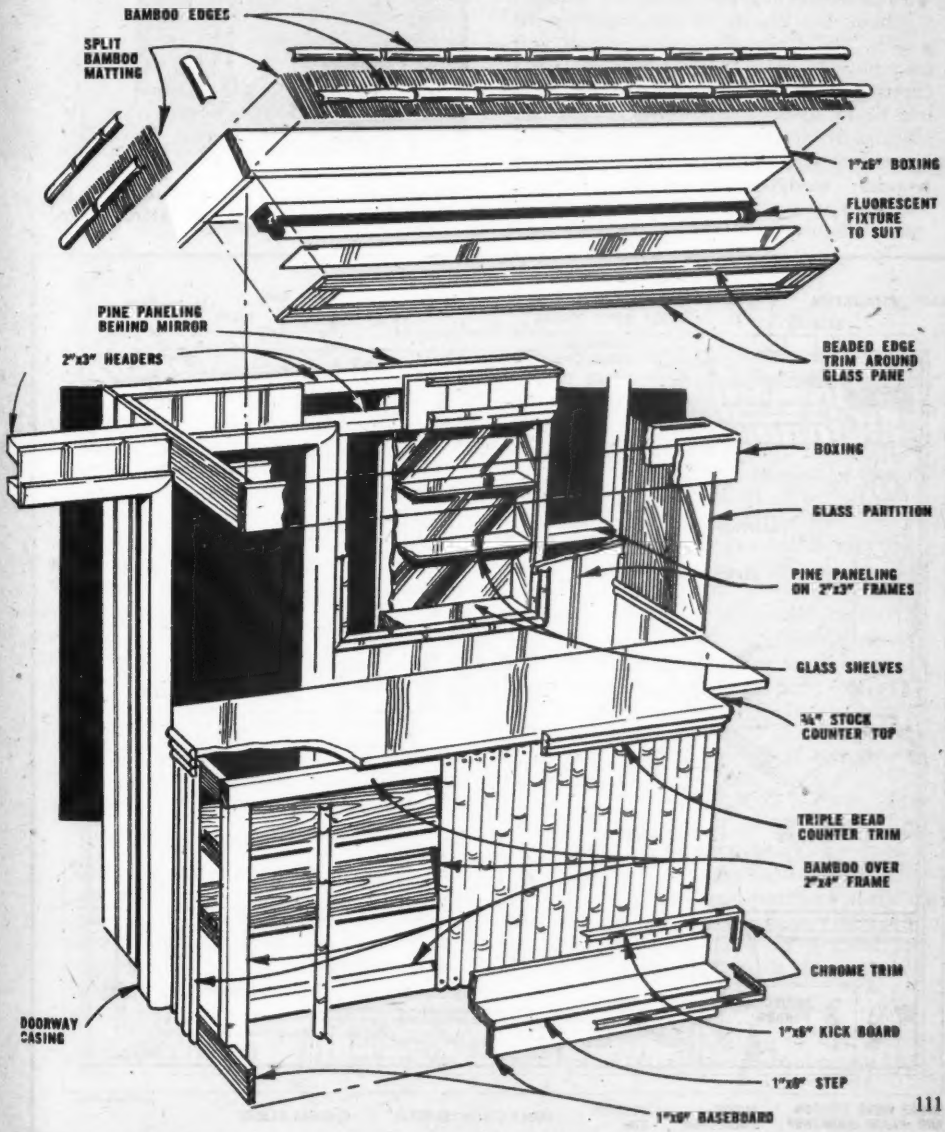
FIT PLYWOOD SCRAP over panels when it is necessary to hammer them in place.

FINISHING may be done after panels are installed, but prefinishing can save time.

each board to allow it to air properly. If the weather is dry, keep the basement windows open to aid this process.

Never install knotty pine panels directly on the wall. Therefore, your first step will be the installation of wall studs

BASEBOARDS go on after the panels are up. Countersink nails, then putty holes.



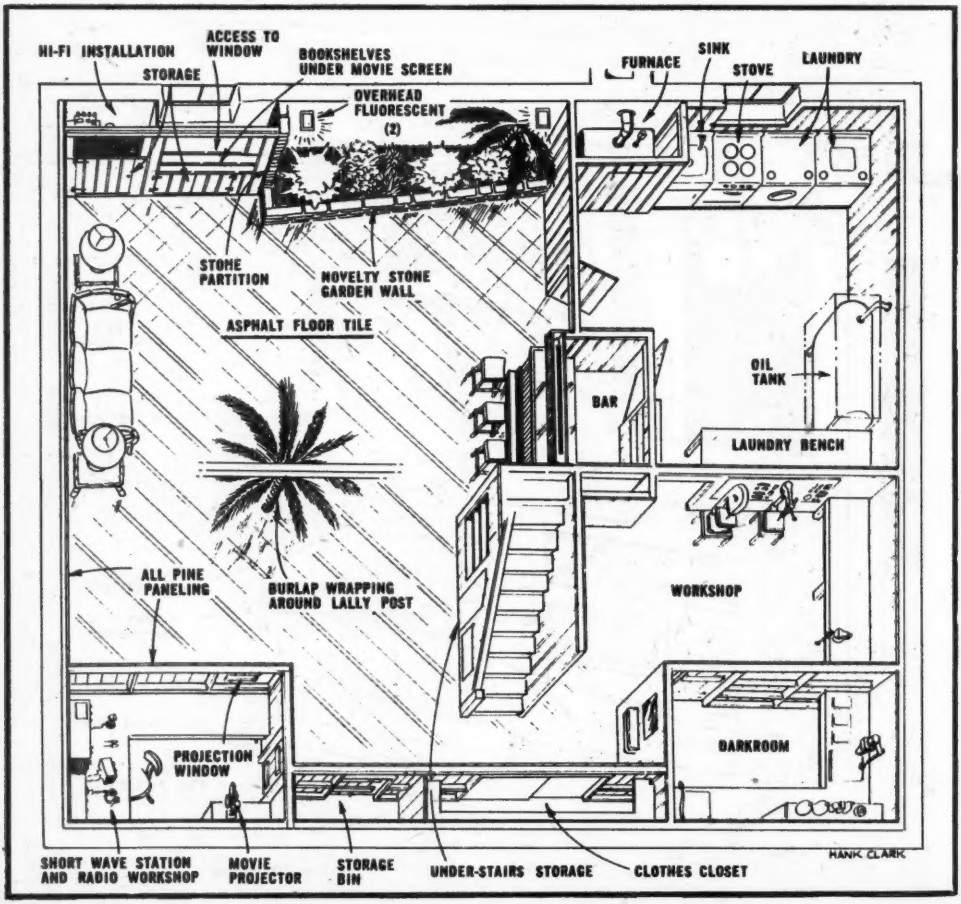
(vertical 2x3s with horizontal cross-members) or furring strips (1x2-inch stock) on the walls.

On plaster or plasterboard walls, nail horizontal furring strips around the room at intervals of not more than two feet. Vertical furring is installed at the corners and around all door frames and windows.

While the furring need not be particularly level it must be uniformly plumb; furring strips that "belly out" from the wall will eventually warp the panels.

Check the plumb of your walls with a bob. If the wall is not plumb you may have to shim the furring. Nail the furring to the wall with 2½-inch nails but don't drive them home. Test the alignment of the furring rows and if necessary draw out a nail and place wooden wedges behind the furring

WARDROBE CLOSET at foot of stairs is also a convenient off-season storage bin.



MOVIE SCREEN is built into the ceiling directly opposite the projection window.

TROPICAL BAR is a beachcomber's delight. Note the split bamboo trim around the top.

to bring it into line with the others.

If your basement walls are unfinished you will have to put up 2x3 or 2x4 studs. Start with a 1x3 or 2x3 ceiling plate across the joists. Then drop a plumb line to the floor to locate the positions for the floor plates which are fastened down with steel-cut nails into a concrete floor or with bolts and masonry anchors.

Erect the vertical studs about 24 inches apart toenailing them at top and bottom. The horizontal cross-members are nailed on between the verticals about 24 inches apart. Where furring strips are used, nail them across the front of the studs to which the panels will be nailed.

Keep checking the plumb. Otherwise your paneling can wander off the vertical and prevent the tongue-and-groove joints from locking together properly.

Prefinishing The Boards

With the aid of a couple of sawhorses of convenient height you'll find it a much easier job to finish the panels *before* they are nailed up. One of the advantages of prefinishing is that the hidden joints will be shellacked and won't show up as raw wood if the panels shrink slightly after installation. When the panels are installed they will be toe-nailed at the base of the tongue to avoid damage to the finish.

After sawing the panels to wall-height length, sand them lightly with an oscillating or finishing sander, taking care always to sand *with* the grain. Don't use a disk sander; it will mar the surface.

You may wish to darken the panels slightly. This may be done by brushing on penetrating oil stain of the desired shade. Allow it to set for a few minutes, then rub it off with a clean, dry cloth.

Having applied the stain, mix the undercoat and apply it liberally to the face of the boards. Wipe it off in about five minutes, sand again, then dust with a clean cloth. Now apply three or more coats of clear lacquer or shellac. After each coat has dried, rub it down with a clean pad of fine steel wool.

Keep your finish on the light side because the wood will darken later; and besides, finishes always appear darker when spread over an entire wall.

This is the time-and-patience stage in the project. Whatever time you spend on this will pay off with a gleaming finish later—so don't rush it.

Installing The Panels

The actual installation of the panels goes quickly [*Continued on page* 164]

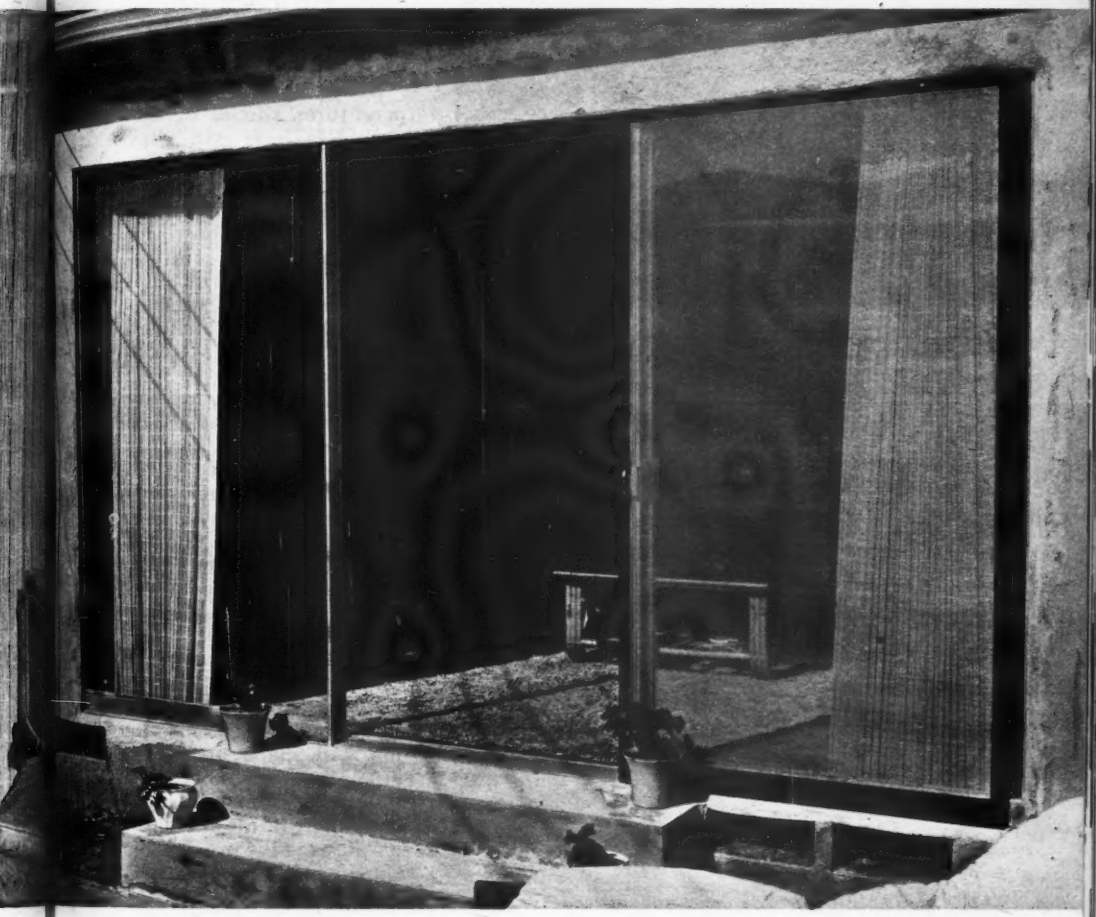
A WINDOW WALL

AIR, sunlight and a wonderful feeling of spaciousness! These are certainly worthwhile rewards for a few day's labor around the house. When you have installed this beautiful sliding glass wall they are yours. If you take on the job yourself you'll discover the bulk of the work can be done, under normal circumstances, in a single day. Whether you figure it dollarwise or from the point of view of hours worked, this represents an outstanding value in home remodeling.

To many this probably looks like a major revamping operation. It isn't. This project has been turned into a weekend do-it-yourself job by one factor: national availability of prefabricated metal units that offer a choice of steel or aluminum.

The steel units are prewelded at the factory and all that is left to you is their installation. While the aluminum units require some assembling, they are rustproof and therefore never require painting. The prices of either type run about the same.

To pick the unit best suited for your



particular needs is simpler than it used to be because today's sizes have been standardized by the manufacturing members of the Sliding Glass Door Window Institute. However, all units are built to the same height—6 feet 10 inches.

If you want an arrangement that allows either the left or right half of your glass partition to slide, you can have it with an over-all width of 6, 8, 10, or 12 feet.

If you prefer a three-section door with moving left, center or right sections, you have your choice of 9, 12 or 15-foot lengths. The four-section affairs usually come in widths of 12 and 16 feet and have two moving center sections.

All of these styles are available for immediate delivery. The cost of the installation shown in this article came to about $350 including contractor's labor and other charges. Do it yourself, though, and you'll save nearly $100. List price for the door frame is about $150 plus another $100 for the plate glass.

If you live in a colder clime you

OLD EXTERIOR WALL admitted little sun.

SAME WALL, interior, was drab and dull.

MARK INSIDE WALL to proper dimensions.

may prefer to use double glass with insulating air space sealed between the panes. That, however, would add another $100 to the cost.

Small additional expenditures should be expected. These will vary from house to house depending on the type of wall being removed and on additional innovations you may introduce in conjunction with the main installation. Incidental materials used on this job included patching plaster, stucco, some metal lath and enough concrete for the steps as well as $3.85 worth of 2x4s to beef up the framing.

While almost any room might benefit from the light, air and view afforded by a window wall, the most likely candidate (as in this case) will probably be the living room.

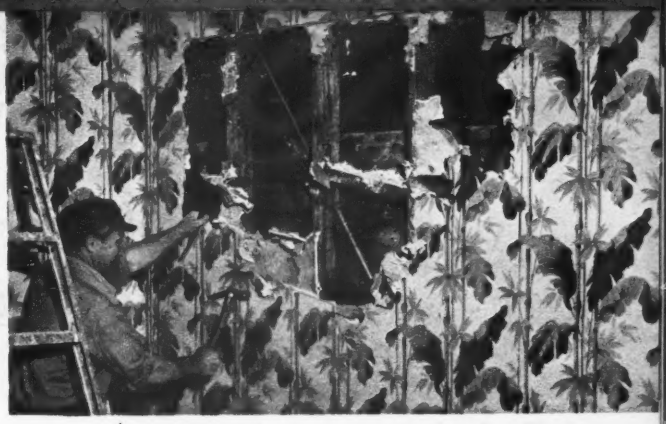
But whether it's a living room, bedroom or kitchen wall that is to be replaced by sliding glass panels, the job will shape up pretty much the same: knock out the wall, strengthen it, fit in the new frame and glaze it following the procedures shown in the accompanying photographs.

Here is the step-by-step procedure you should follow to achieve the most durable, beautiful and satisfying results from your installation.

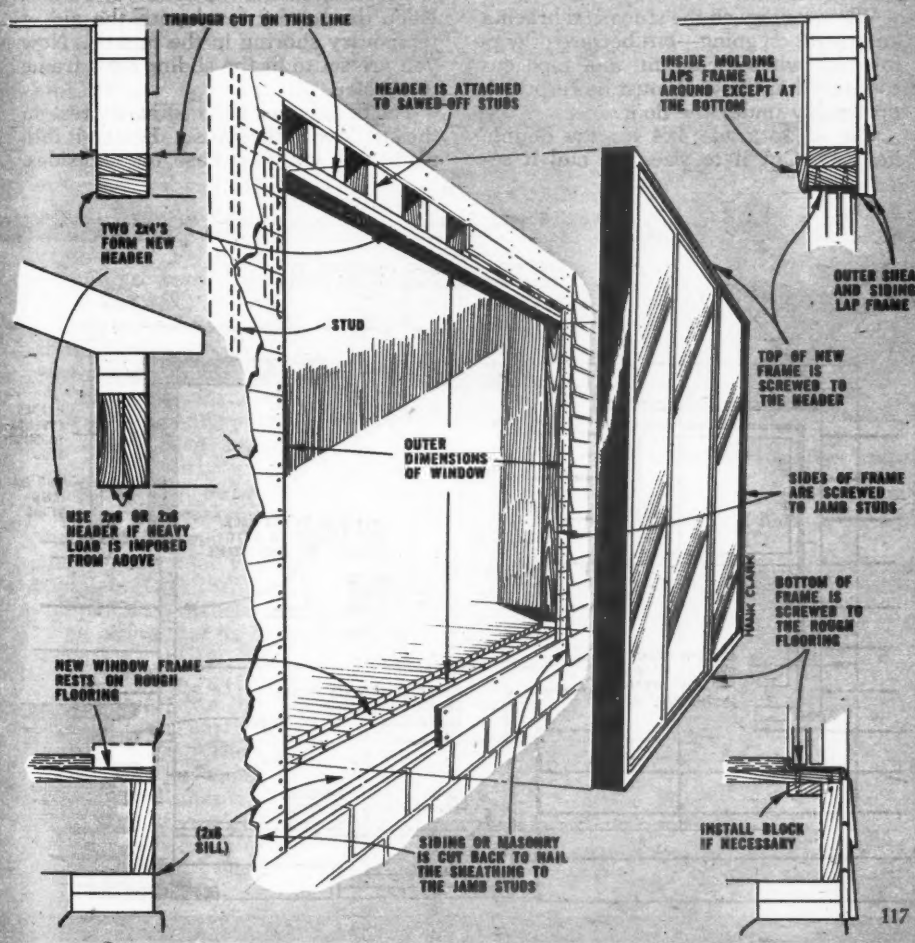
First, mark the inside wall to fit the dimensions of the sliding-door unit you've chosen. This one is 12 feet wide and 6 feet 10 inches high. Allow extra height for at least a double 2x4 header and extra width for the double 2x4 studs you will put up at each side.

Now comes the fun. Cut through the plaster or other wall material from the inside. An old-fashioned hammer and chisel will do this job nicely. Then drill a hole or drive a nail through to the outside wall at both corners to serve as a guide.

You are ready now to go to work on the outside wall. Remove all windows, doors and trim first. Then, if the wall is stucco, knock it out with a sledge



PLASTER crumbles under hammer blows.



SLEDGE will make short shrift of stucco.

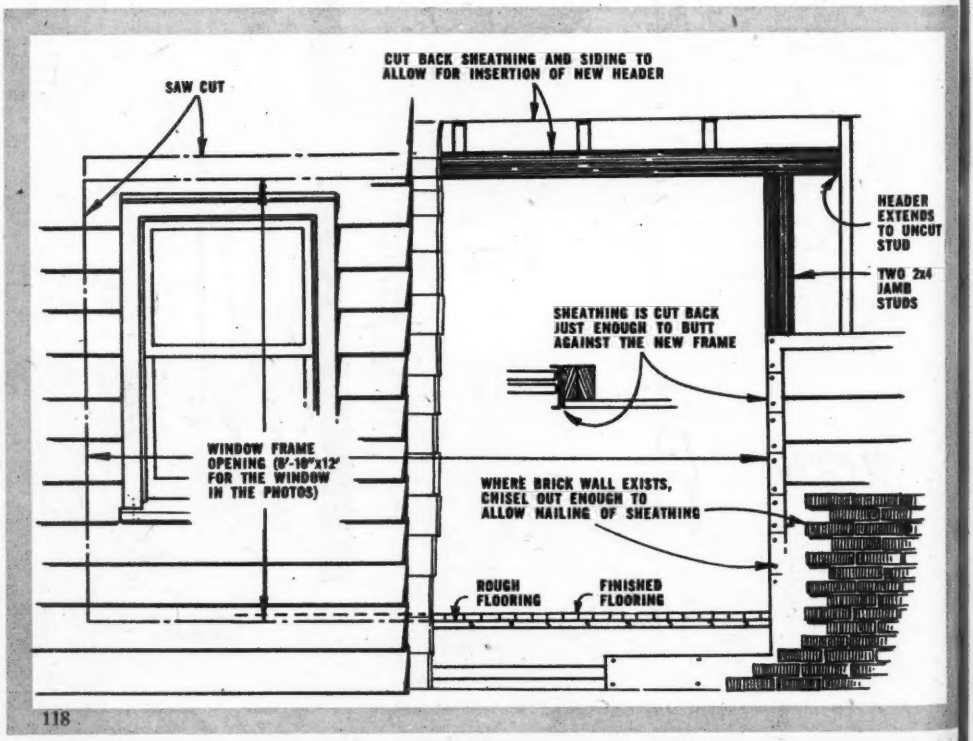
DOUBLE HEADER is raised into position.

hammer. With a frame wall, saw through the siding and sheathing and then rip it off.

When you reach the studs and bracing keep right on going—but beware of wiring! All wiring, conduit, and pipe encountered in the wall must be rerouted, preferably under the floor.

Use a top grade 4x4 for the double header. Cut it to size and nail it securely to the sawed off studs at the top of the opening. Now, at both ends of the opening install the double 2x4 studs. Keep the header level with the aid of temporary shoring in the middle. Now you are set to fit the sliding door frame into place.

The door frame will ordinarily rest on the subfloor of the house. Fasten it into place with screws at base, top and sides.



Now remove the temporary shoring.

Lay down a bead of glazing compound and put in the plate glass. Patch the stucco on the outside wall; if clapboard, install new trim. Trim the inner wall also, patching the plaster where necessary.

If your terrace or yard is more than a few inches below floor height, add one or more concrete steps.

You will most naturally want to tackle the job during balmy weather. Don't do it at the height of the bug season, however, unless the hole through the wall can be screened off from the rest of the house.

Try to get as much of the advance work done as possible before you actually break through the wall. Mark the inner wall, cut it away, and then mark the outer wall ahead of time. Then, with all your materials at hand, set about bright and early in the morning to break through the outer wall.

Cut out the studs and install the new studs and the header as shown in the photographs. Installation of the frame and completing the glazing are jobs that move fairly rapidly.

Follow this schedule and you will have the wall weathertight again by evening. Then later you can complete the trimming and patching without worrying about storms or insects.

Finally, a matching screen door can be obtained later as part of most modern units. Then you will truly have an all-weather wall that can't be surpassed in beauty or for the added sunlight it brings.—*Darrell Huff*

SCREWS hold frame to header, base, sides.

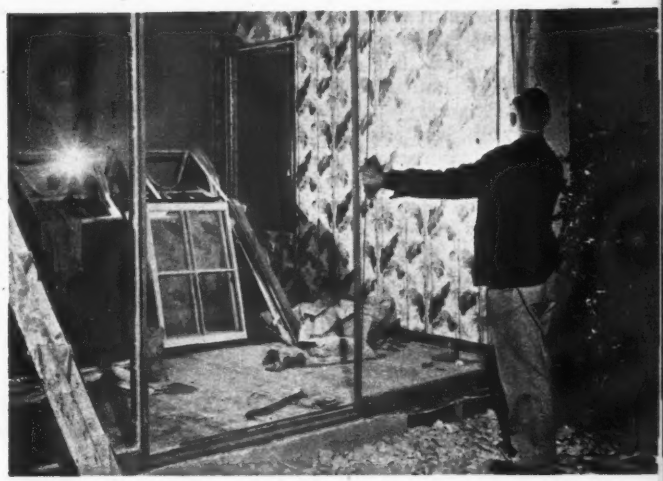


PLATE GLASS is fitted into window frame.

CEMENT seals frame and finishes the job.

SHINGLING

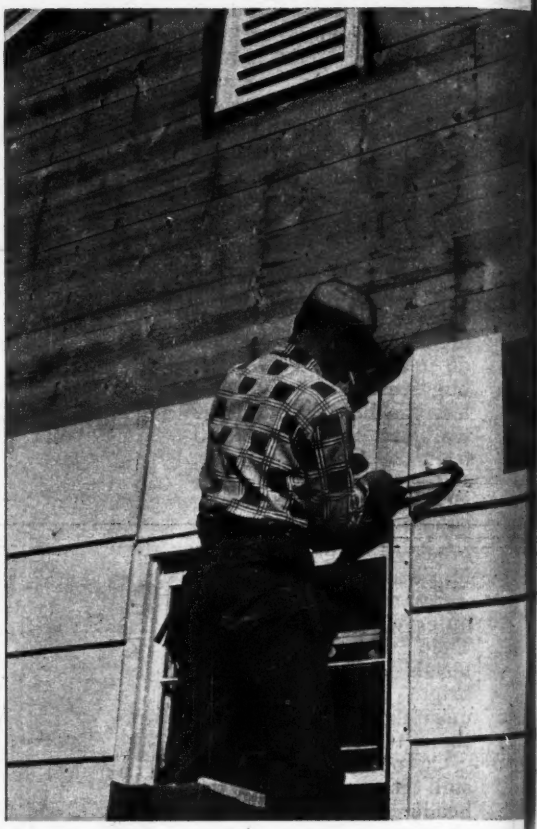
THE EXPERT WAY

DOES your house need a new face? Are the shingles or clapboards dried out and weather-beaten? Of course you could patch and paint and try to hide the decay, but a shingling job will give you a home as bright and new-looking as any in the neighborhood—and you can do it yourself at less cost than you would imagine.

Canadian red cedar shingles, shown in the photographs, are naturally weather-resistant. They're very often used as is, without painting or finishing of any sort. This makes the job simply one of application and any amateur can get excellent results without special tools.

If you don't care for the natural wood finish, prime-coated shingles are available, ready for a finish coat in your favorite color. You can also get pre-stained shingles; if these are used, they should not be painted.

Shingles usually come in 16-, 17- or 18-inch lengths and three or four inches are taken up in each course by overlap. When using 16-inch shingles, you can make all the courses even by dividing the height of your most important wall into 12-inch strips; divide it into 14-inch strips when 18-inch shingles are used. To save time in cutting and fitting, try to adjust the exposed area of the shingles so that the courses will fit snugly against window and door horizontals. Individual courses may be varied slight-

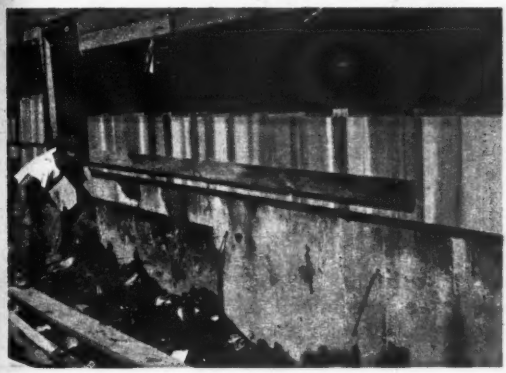


SHINGLING isn't difficult; any homeowner can do a good job without special tools.

STRAIGHT BOARD, suspended from above, serves as guide to make bottom row even.

CHALK LINE, stretched taut and snapped against wall, marks bottom of second row.

GUIDE BOARD is carefully aligned with chalk line and lightly nailed in place.

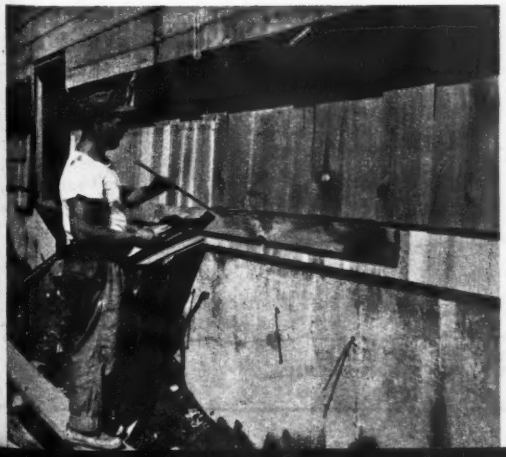


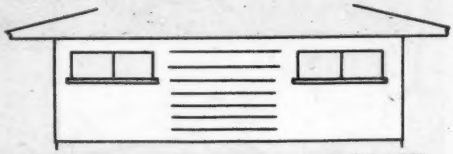
SIGHTING along edge of guide board will help determine if it's straight or bowed.

RENTED STAPLER makes it easier to attach undercourse, but nails may be used.

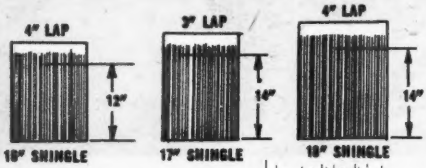
STACK OF SHINGLES is propped between body and wall to free both hands for work.

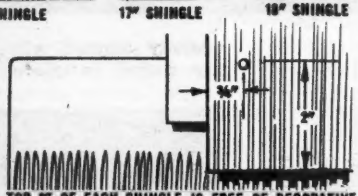
TOP SHINGLES are butted tight against each other, lap those beneath one inch.



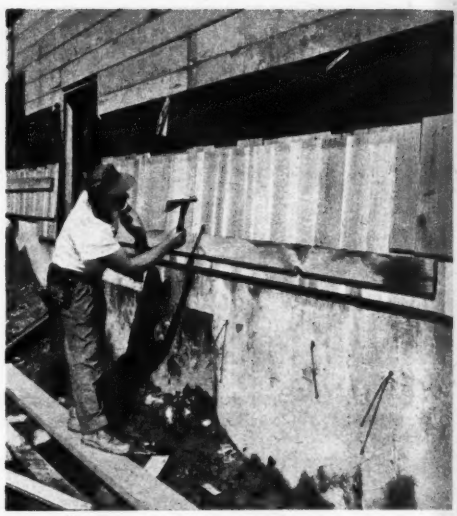


DIVIDE WALL INTO EQUAL SPACES TO CALCULATE WHICH SIZE SHINGLE TO ORDER AND HOW MUCH TO OVERLAP





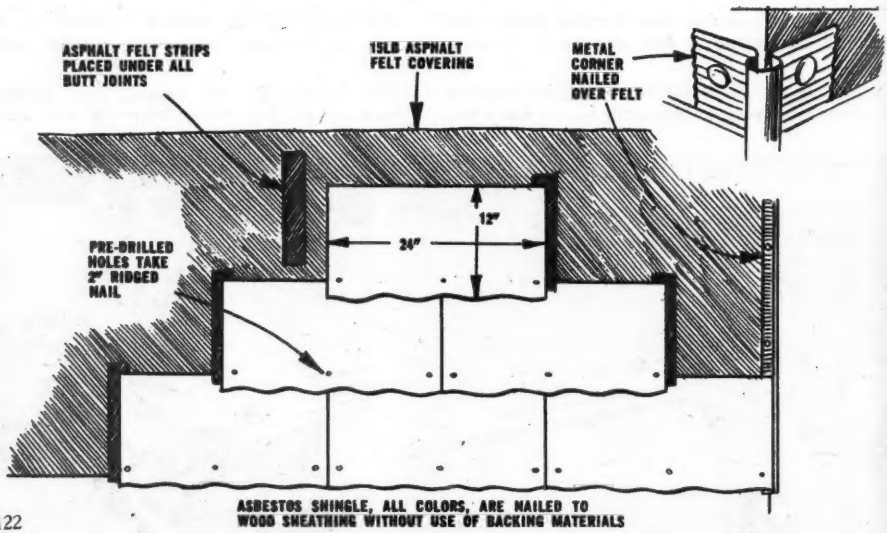
TOP 2" OF EACH SHINGLE IS FREE OF DECORATIVE GROOVING, ALLOWS FLAT NAILING SURFACE FOR TIGHT SEAL AGAINST WIND AND RAIN



TWO NAILS hold an outer shingle until the one above is nailed over it with two more; thus each one is held by four nails.

ly for this purpose if you prefer it.

In refinishing a house, the old clapboards or shingles must first be stripped off, exposing the siding. Then the siding is covered with either 15-pound felt or building paper to seal out air and moisture. Run the paper in a horizontal band along the bottom of the wall, adding new strips as you shingle upward. It requires no special nailing—just enough to keep it in place. Since it is likely to rip free of small nails, large-headed roofing nails are recommended. Otherwise, drive nails through wood scraps which act as



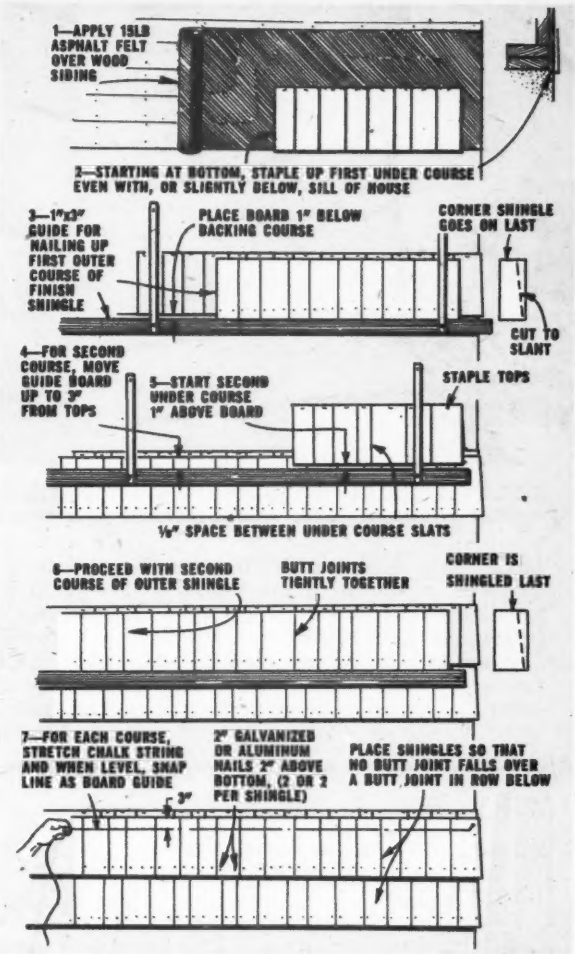
ASBESTOS SHINGLE, ALL COLORS, ARE NAILED TO WOOD SHEATHING WITHOUT USE OF BACKING MATERIALS

cleats and remove the cleats as you progress with the shingling. Be sure to lap the paper at least six inches at the ends and carry it at least nine inches around corners. Each strip should overlap the one below it by at least four inches.

Instead of building paper, Fiberglas Siding Cushion may be used as a blanket under the shingles. The fine glass fibers make an effective seal against wind-driven moisture and dust and also reduce sound transmission through the walls. Important too is the insulating quality—heat stays inside in winter, outside in summer.

Each row of shingles is applied in two layers. A cheaper grade of shingle is used for the bottom layer; while less perfect in appearance, it is satisfactory for the purpose. Composition materials with insulating qualities also may be used. In the trade, these are referred to as "shingle backers." It is often the practice to double the bottom layer on the first row of shingles to achieve the same thickness as the following rows.

Use a straight-edged board as a guide to make each row of shingles even. On the first row, where it cannot be nailed to the foundation, it is suspended from above with two or more pieces of lath. On succeeding rows, it can be nailed in place temporarily. Snap a horizontal chalk line against the building, using a level to check it, and then nail the board along the line. The bottom layer of shingles is nailed in place one inch above the guide board and the top edge of the board determines the bottom edge of the outer layer. Proceed up the wall, moving the



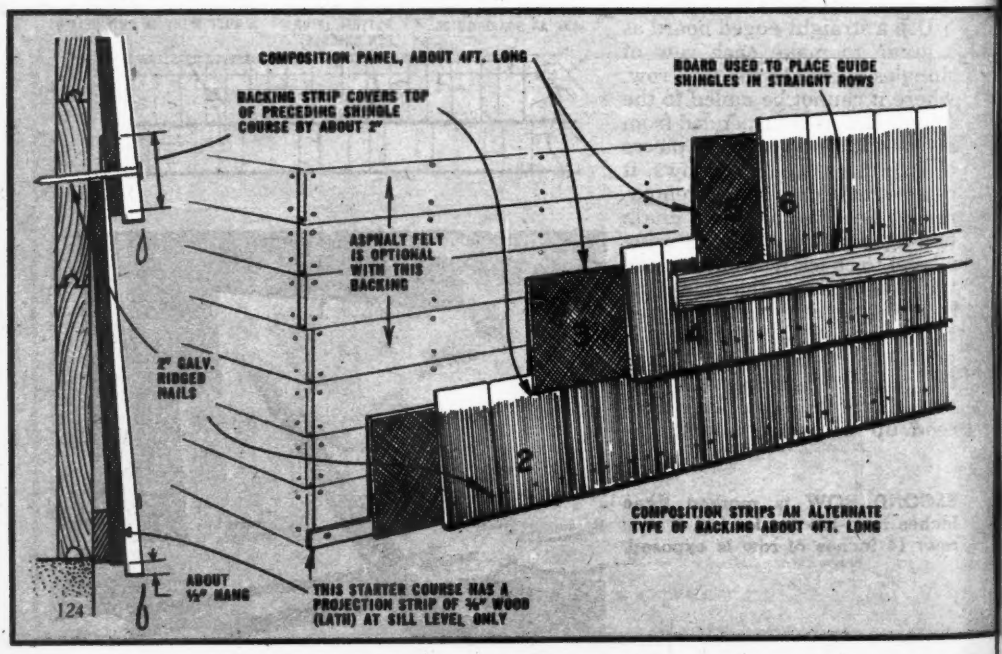
SECOND ROW is marked three inches from the top for lap of next row; 14 inches of row is exposed.

CORNER SHINGLES are lapped and butted: overlap is trimmed close with a hatchet.

FINAL SMOOTHING at the lapped corners is best accomplished with a block plane.

guide board up and nailing the shingles in place as shown in the photos and drawings. Once the first row is established, the job is simple.

When turning outside corners, alternate courses are "laced" or lapped. One outer shingle protrudes past the corner with the shingle on the adjacent wall butting against its underside. The protruding part is then trimmed off. Alternately, shingles are butted and lapped. Extra nails are used along the edges to secure the shingles at the corners. Another way of doing the job is to butt the shingles against vertical strips as shown in the drawing.—*David Manners*

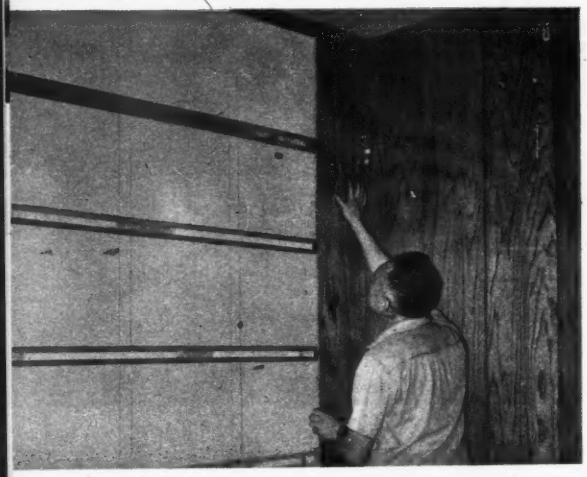


Breakfast Nook
COMES IN A KIT

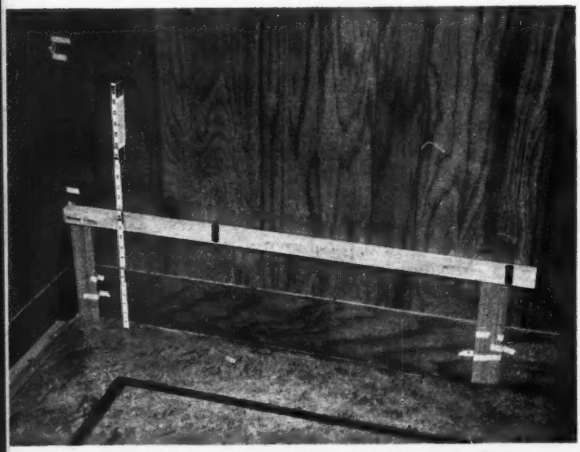
ONE area of the house which probably gets more "living" in it than any other room is the kitchen. Here is the place where the Mrs. prepares all of the food for the family and where the family generally has its breakfast. The evening meal and "company" meals may be in the dining room but, who wants to lug food for a hurry-up breakfast into another part of the house? So, enter the breakfast nook. Inasmuch as it is the most "worked in" part of the house, all the more reason to beautify it and make it as soothing to the eye as possible.

Two manufacturers, the Georgia Pacific Company of 270 Park Avenue, New York City and the Dormalux Company, 50 Mechanic Street, Buffalo 2, New York, can supply you with all the parts, in a kit, to make a really customized breakfast nook. Georgia Pacific will furnish you with quarter-inch plywood in your favorite wood complete with furring strips and mounting clips to cover

PROBING FOR STUDS with wire coat hanger.



PANELS ARE INSTALLED over furring strips.



SEAT SUPPORT RAILS 12 inches from floor.

an 8x12-foot wall in a single package for about $50 while the Dormalux Company can supply you with the necessary benches and back rests for the sitting area.

The benches and backs are available in charcoal, yellow, red, coral and chartreuse. They come in quite a range of sizes, 4x4 feet; 4½x4½ feet; 4x5 feet and 4x6 feet. The latter two sizes are available with the long side on the right or on the left. Prices range from $89 to $112 and if you want a matching or contrasting table, that too is also available.

But to begin. The first step is to move all the furniture out of the kitchen area. Give yourself plenty of elbow room. You'd be surprised at how much easier the work goes if you don't have to sidestep chairs and tables. Rip off the baseboard and its accompanying moulding. Do the same if the wall has picture moulding or quarter-round moulding against the ceiling.

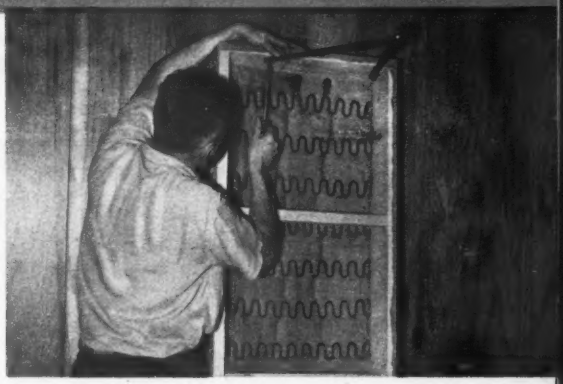
Locating The Studs

The next step is rather an important one. Inasmuch as the bench and the back rest for the kitchen nook are supported by cleats which in turn must be mounted directly to the studs,

RAILS SECURED to studs with screws.

it is important that the studs are accurately located. If you have an ear like Toscanini, well and good. Then you can try the time dishonored method of tapping with a hammer to locate the studs in the wall. But for a sure-fire method of locating studs, mount a one-inch hole saw in a heavy duty electric drill and cut a few exploratory holes as shown. They'll all be covered by the wood paneling.

After the first hole has been drilled, get a length of stiff wire, a coat hanger is fine, and probe through the hole, left or right, until you locate the nearest stud. Mark the outside area of the stud with a pencil. Don't forget, a 2x4 does not measure two inches in width. It is generally nearer 1⅝ inches. It is folly to assume that studs are 16 inches apart. An honest builder will always place studs at 16-inch centers. But, what happens when he approaches a door jamb 20 inches from the nearest stud? Does he nail the next stud ten inches away from the last one or does he nail it 16 inches away leaving a four-inch space to the stud surrounding door jamb? Or does he skip it completely leaving a 20-inch gap? Pilot holes will tell you what's [*Continued on page* 162]



SECURING THE LEGS to sides of the bench.

MOUNTING BENCH on the two wall rails.

INSTALL SHORT BACK REST then center.

COVE MOULDING cemented to wall.

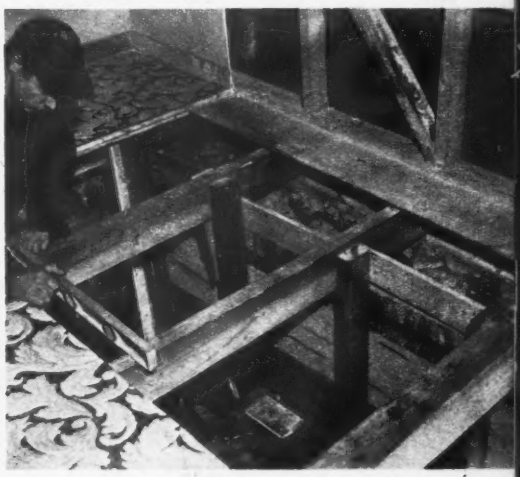
ADD A FIREPLACE

FIREPLACE construction has been greatly simplified in recent years by the manufacture of pressed steel fireplace units which serve as the heart of the heating system. At one time it required a skilled mason to construct the smoke shelf, throat, and damper mechanism; now all these things are built into the pressed steel unit. Today it is simply a matter of setting the unit on a prepared foundation and building the fireplace around it. As one contractor said, "It's difficult to build fireplaces that *won't* work when factory-built units are used."

However, this does not preclude the

DECIDE on dimensions before starting work.

FLOOR JOISTS support hearth's foundation.

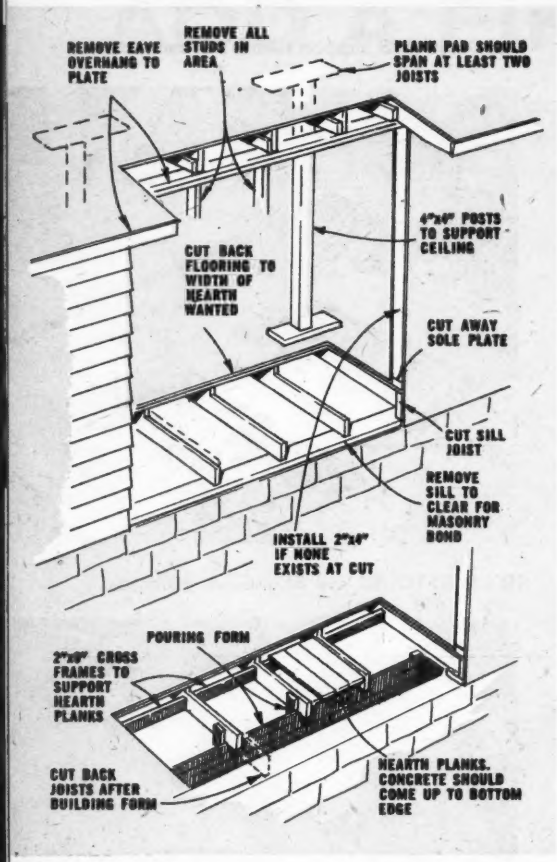


STEEL RODS strengthen hearth's concrete.

HEARTHSTONES are of uniform thickness.

necessity for exercising care when installing one of these units. It is important that the fireplace be properly situated in the room. Remember, a properly built fireplace has plenty of thermal muscle, so the room should be a large one. Those bright, crackling flames you love to watch contain a surprising amount of heat and if you build up a roaring fire in a small room you will find your guests fleeing in self-defense. For this reason you should always build your fireplace to face the length rather than the width of a room, unless the room's width exceeds 15 feet.

Make provision for a large hearth.



Unless the hearth is wide, your floor covering may scorch or even burn. The hearth should be at least the width of the fireplace masonry (usually about six feet) and not less than 30 inches deep. An eight-foot-wide hearth extending one foot beyond the masonry on either side and 43 inches out from the firebox is none too big for a roaring fire.

The average fireplace unit shapes a hearth about 20 inches deep. The additional depth is made up of masonry. If you skimp on masonry and build it to the minimum four-inch depth you won't be able to burn larger logs. So make the width of the masonry at the firebox opening at least eight to ten inches.

Build your firebox deep enough to accommodate those old stumps you'll bring back from the country, otherwise fire may spill out on the hearth or smoke escape into the room.

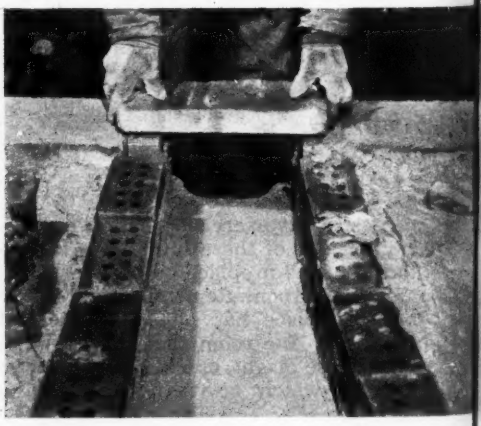
Don't let the mantelpiece climb too high. Keep it low enough to permit even a short guest the comfort of leaning on it with his elbow.

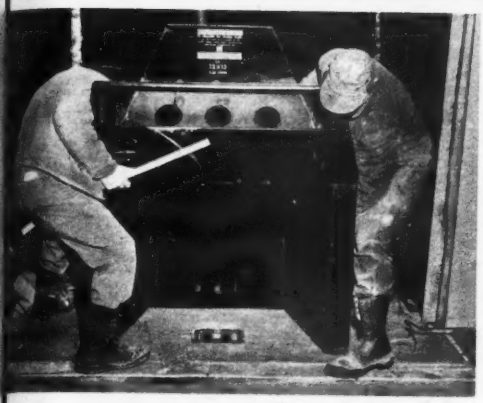
Raw Materials

Gather up plenty of rocks and fieldstones. An average fireplace will use about 20 tons equally di-

CEMENT BLOCKS frame exterior foundation.

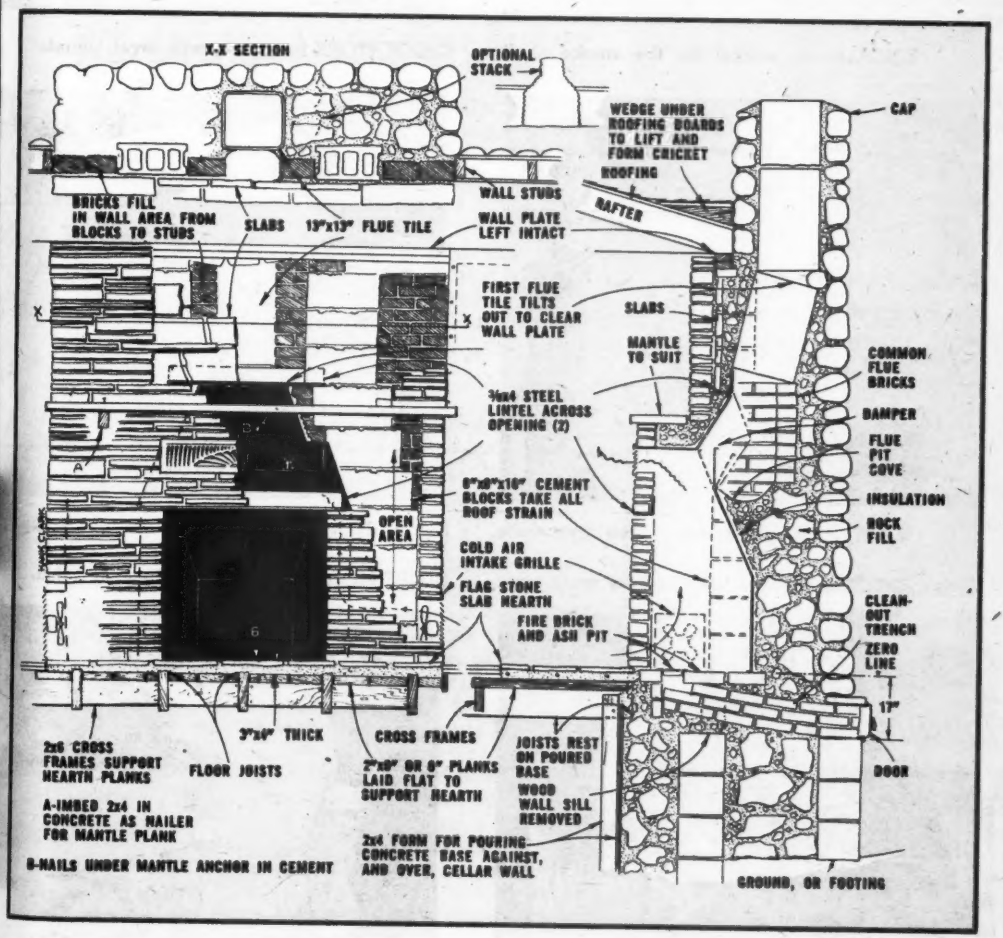
ASH CHANNEL is covered with flat stones.





STEEL UNIT is centered over fire hearth.

RUBBLE STONE is the fireplace's muscle



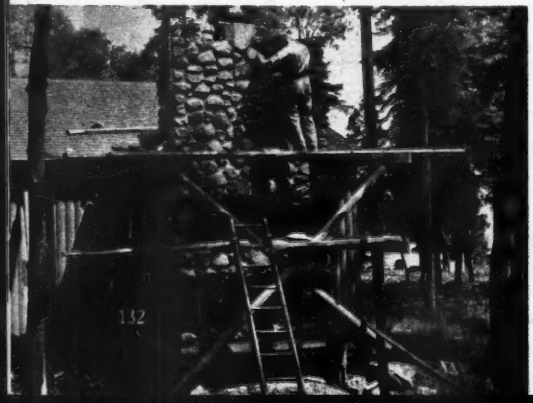
BRICK forms pocket for the smoke shelf.

CHECK WORK frequently with level, plumb.

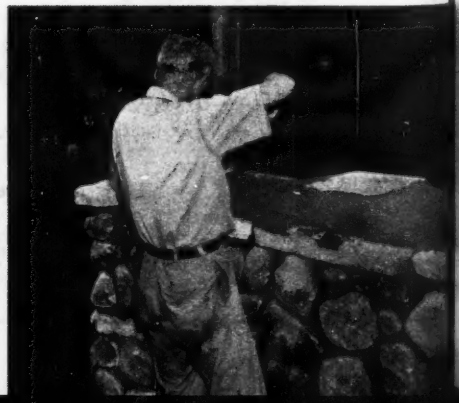
VARY inside stonework to suit your taste.

FLUE LINER tips out to clear the roof line.

ERECT scaffolding as chimney work rises.



SLOPE MORTAR around flue liner to finish.



vided between face stone and rubble stone. The face stone will form the exterior of the fireplace. The rubble stone is used to build up a solid masonry interior.

Cutting Through The Wall

Cut a hole in the side of your house the exact width of the fireplace. Remove the inside and outside finish to expose the studs. Then brace the ceiling above the hole with a 6x6-inch crosspiece strongly supported by uprights at each end. Don't place these too close to the working area but set them back a foot or so from the opening to give yourself room to work. When the crosspiece is in place, remove the studs.

Do not take out the plate, but cut off the roof overhang. Remember that the masonry will come flush to the plate and will support the plate in place of the studs. You can erect a small tarpaulin now to keep out weather and insects until the masonry closes the hole.

Outline the hearth and remove the flooring from that area. The supporting floor joists will be at least 2x6s and more likely 2x8s or 2x10s. The hearth should be at least four inches thick. If you have to slice off that much from the floor joists, build up cement-block or masonry pylons from below to give added support to these weakened timbers. These problems differ according to varying house designs and the correct solution in your own case should be apparent as soon as the joists are exposed.

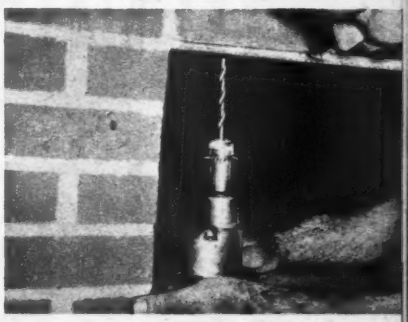
The Foundation

Build up the outside fireplace foundation. This must be a firm base for those tons of rock it will support and should be somewhat larger all around than the dimensions of the masonry over it.

If the house stands on well-drained soil and if there are several feet from ground to floor level it may be possible to lay the foundation flat on the ground. Inquiry about building practices in your own community will determine if this is feasible. However, the safest method of anchoring the foundation is to dig a hole to a point below frost penetration. This will vary from a few inches to a few feet depending on your local climate.

Build up the foundation with mortar and rock. Set a mixer alongside the excavation and dump in alternately a layer of concrete and a layer of rock. Ready-mix concrete will save work at this point of the project. [*Continued on page* 189]

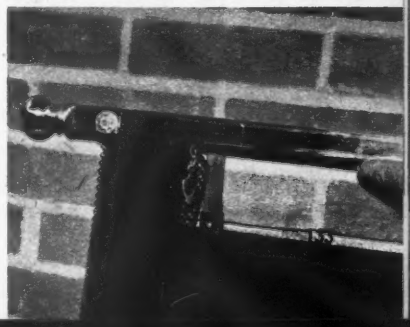
MEASURE carefully for custom fire screen



DRILL screw holes through steel lintel

FASTEN brackets with self-tapping screws

SUPPORT BAR is lowered into the brackets



NEW WIRING DEVICES Save Space

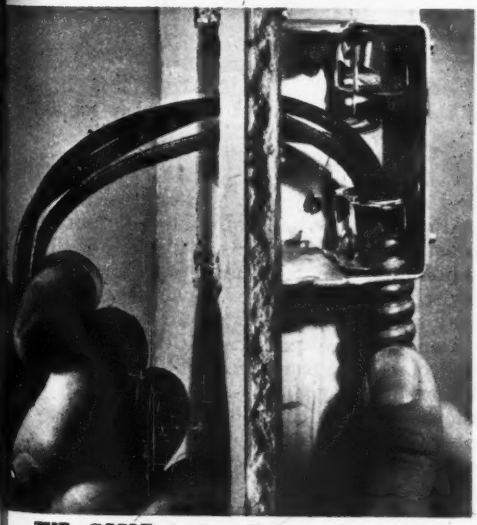
TO WIRE WALL BOX, first strip off cable armor by sawing it apart at right angles to the spiral.

WHETHER you're living in a house 25 years old or planning a new one, you can do a lot to provide for an up-to-date wiring system by installing outlets, night lights, pilot lights and switches such as those included in the Despard line. These wiring devices, manufactured by Pass and Seymour, Syracuse, N. Y., are extremely compact, easy to wire and, as shown in the photo above, completely interchangeable. Outlet, switch or small light is held in the three-place mounting strap by a clever cam lock which is secured or released with a flick of the finger. You can install one, two or three units in any combination.

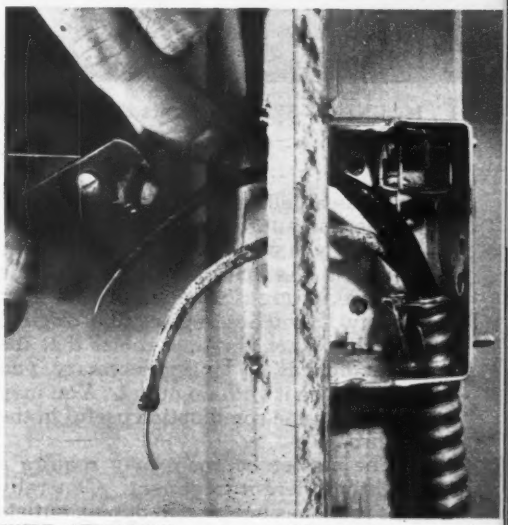
Start by making a survey of each room and its needs, from the attic to the basement and out to the garage. Determine first whether the number of outlet boxes is sufficient, bearing in mind a growing family, more appliances, better lighting and, equally important, step-saving. Also consider the best possible combination each wall box can serve. For instance, a typical child's room has a duplex outlet and a ceiling light controlled by a wall switch. A table lamp is usually plugged into one outlet and the remaining outlet may be used for a plug-in night light. If you were to use a vaporizer, it would be necessary to remove the night light or the table lamp. The remedy here would be to leave the duplex as is and use the combination shown in photo-diagram 1 at the wall box. This consists of two single-pole switches and one night light installed in place of the original wall switch. The top switch would control the ceiling light, the second switch is wired through the night light and controls it. The advantage is that you gain one outlet and the night light is on the wall instead of near the floor where most outlets are located. The night light uses a six-watt clear lamp

PAPER INSULATION is removed from wires.

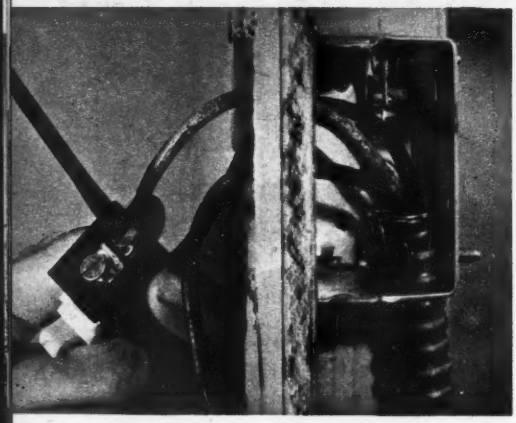
COLLAR keeps wire from being cut by armor.



THE CABLE is installed in the wall box.



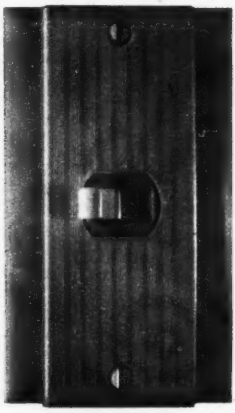
WIRE STRIPPERS remove rubber insulation.



WIRES are connected to switch terminals.

LOOP WIRES in wall box to avoid kinks.

MOUNTING STRAP is secured with screws.

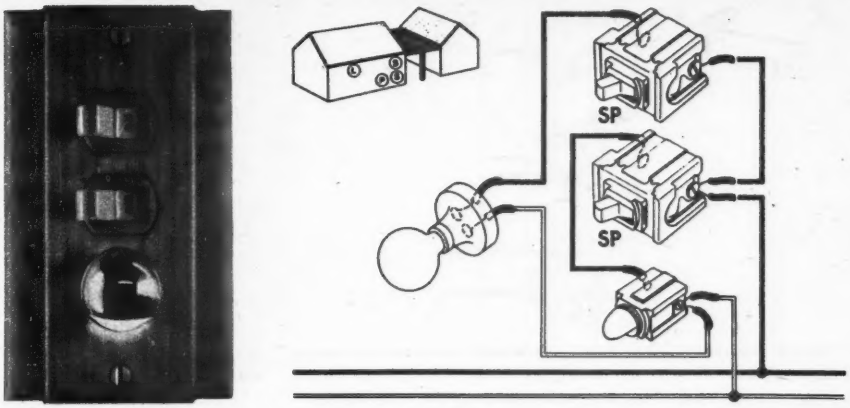


WALL PLATE is installed to complete job.

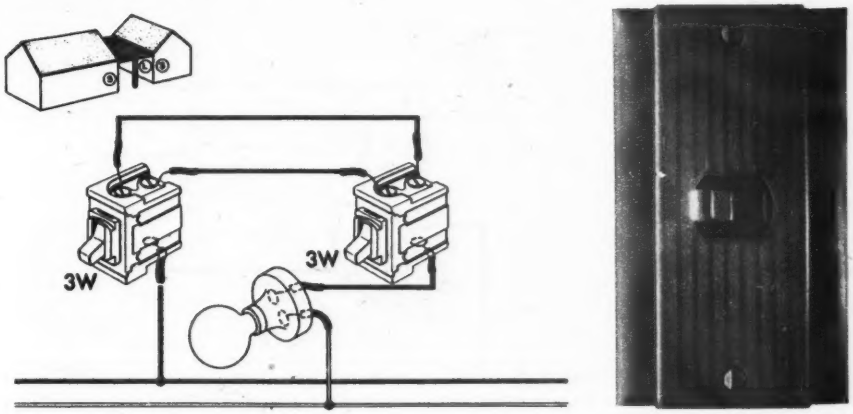
and has a polished aluminum reflector.

The hook-up for the above is rather simple in that no extra boxes must be installed. As shown in the diagram, the original wiring is used and a pilot light and two switches replace the original switch. When the time comes that the night light is no longer necessary, you can replace it with an outlet. You may find this same combination useful in the bathroom.

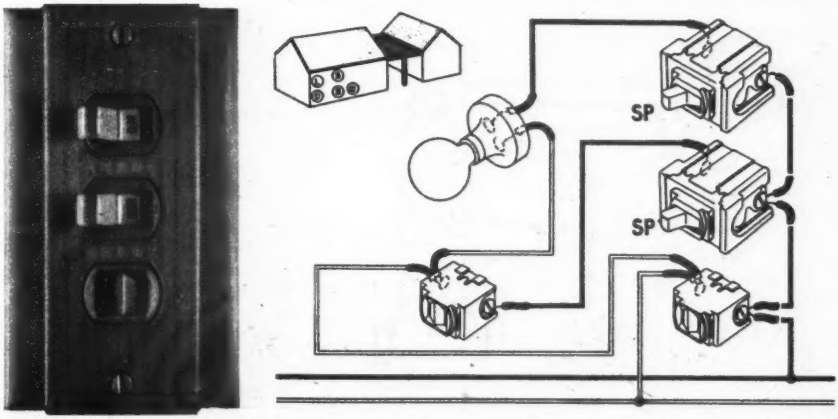
The master bedroom may require a slightly different treatment. Generally this room has one or two duplex outlets and a single-pole switch to control the ceiling light. When you go to bed, you must normally turn off the lights in the adjoining room and then grope for the switch in the bedroom. A pair of three-way switches would eliminate this condition because you can turn on the bedroom light from the adjoining room before entering and then turn it off from the bedroom. Three-way switches require three-wire cables between them as shown in photo-diagram 2. This application is also used for controlling a hall light [*Continued on page* 160]



1. CEILING LIGHT and night light controlled from one point by two single-pole switches.

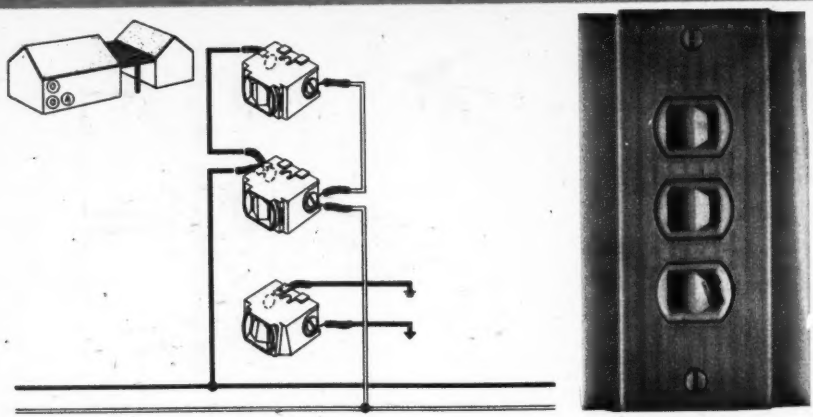


2. SINGLE LIGHT can be controlled from two locations by a pair of three-way switches.

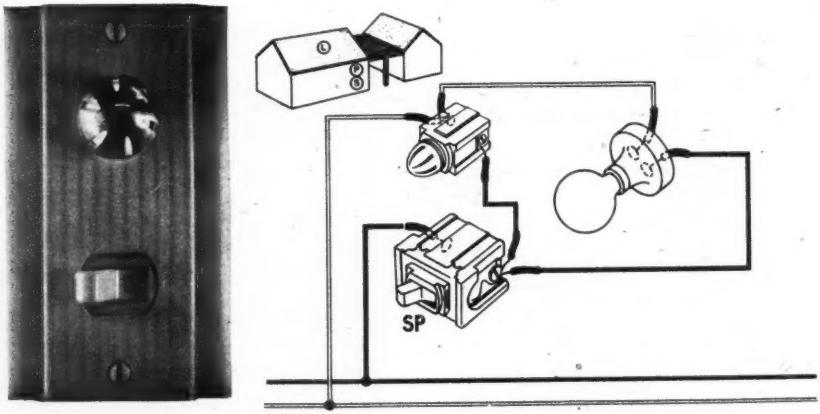


3. ONE SWITCH controls light, other controls remote outlet; outlet in wall plate is hot.

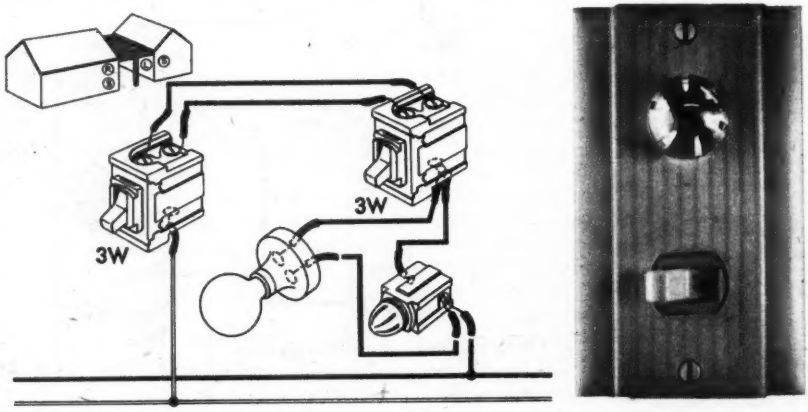
TURN PAGE FOR MORE PHOTO-DIAGRAMS



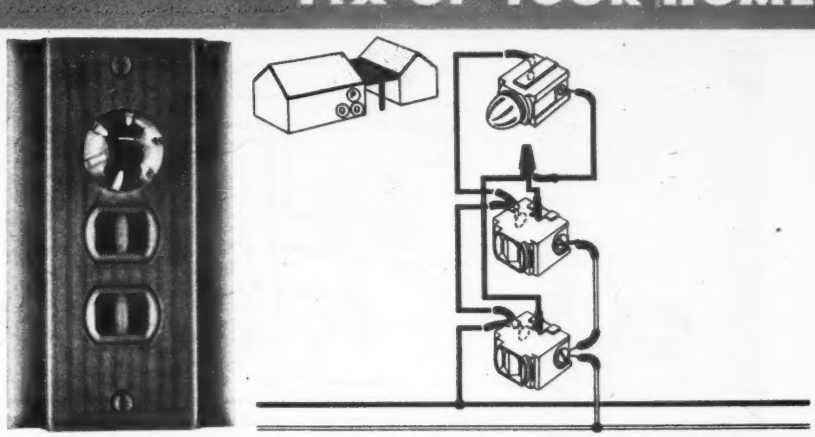
4. RADIO COMBINATION has two power outlets and one for antenna and ground.



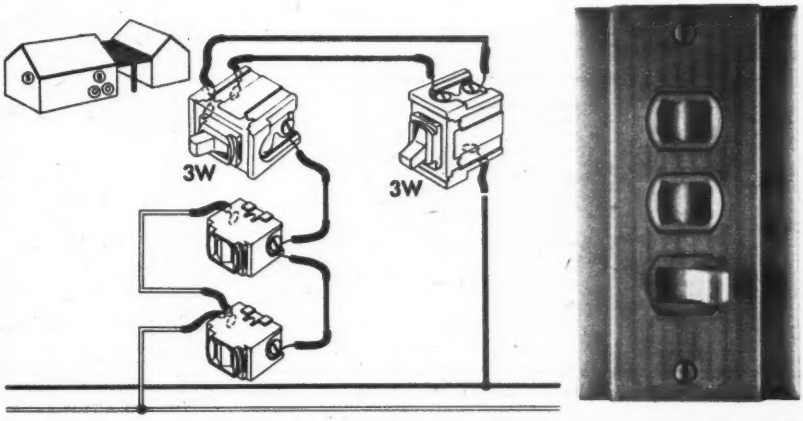
5. PILOT LIGHT on wall plate tells if remote light controlled by switch is on or off.



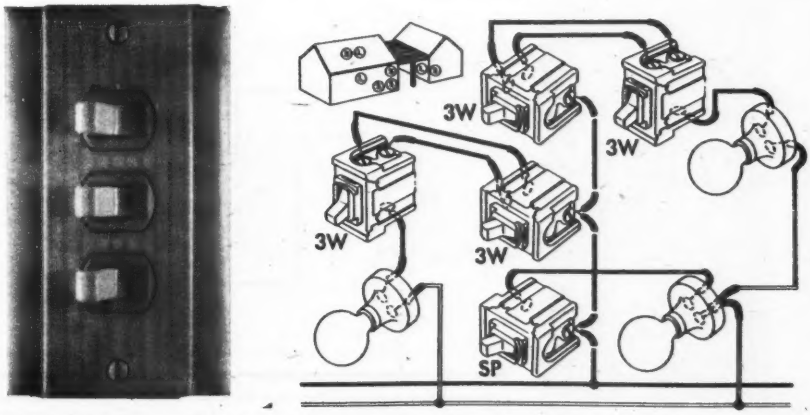
6. SINGLE LIGHT CONTROL from separate points with pilot light indication at one point.



7. FOR KITCHEN, two power outlets have pilot light to indicate that circuits are live.

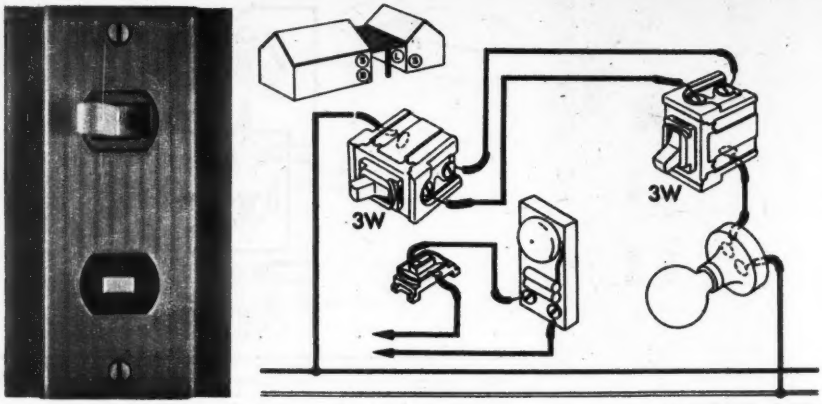


8. TWO OUTLETS are simultaneously controlled by either an adjacent or a remote switch.

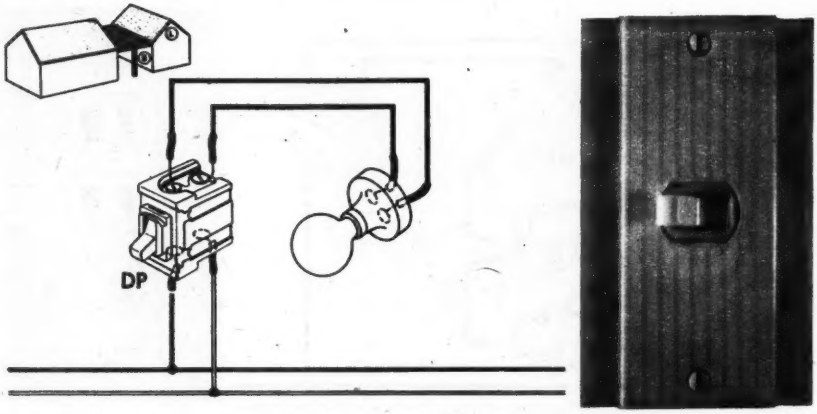


9. TWO LIGHTS are controlled from two points and one light from one point in this case.

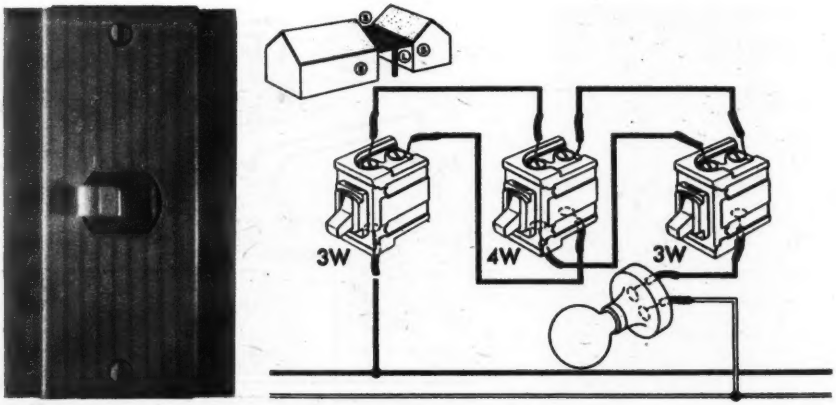
TURN PAGE FOR MORE PHOTO-DIAGRAMS



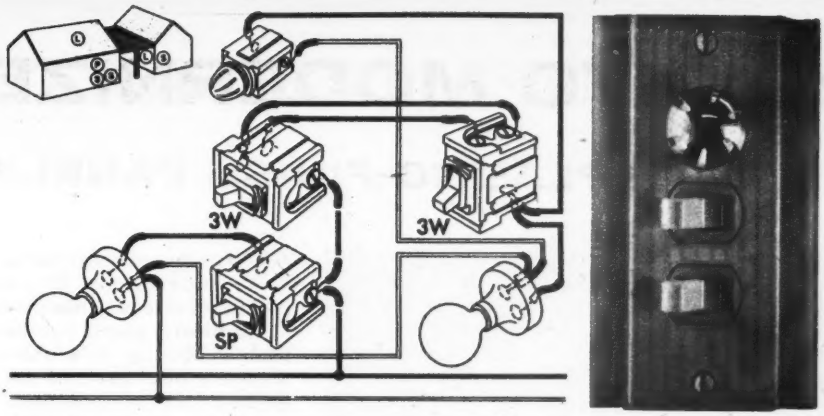
10. BELL PUSH and a three-way switch combination for controlling a light from two points.



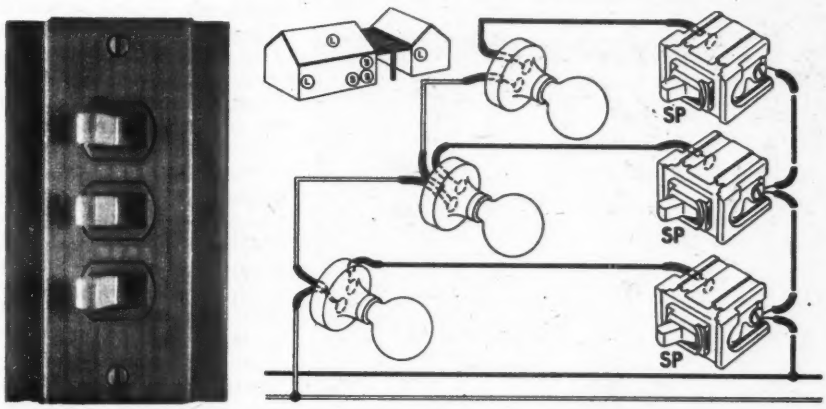
11. DOUBLE-POLE SWITCH breaks both sides of line, prevents harm if wires should cross.



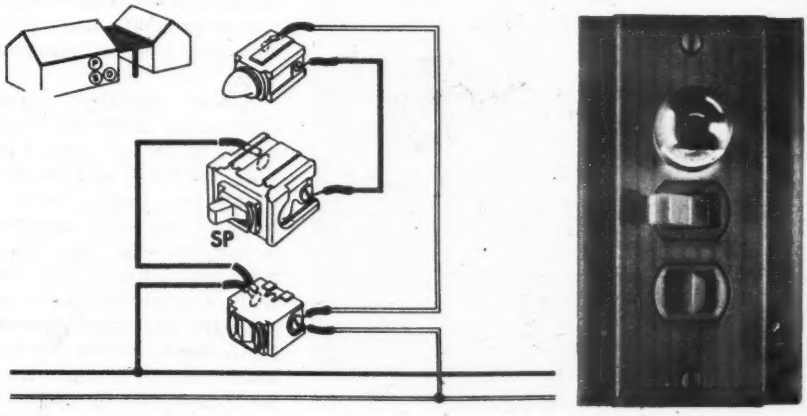
12. CONTROLLING light(s) from three points with one four-way and two three-way switches.



13. LIGHT(S) with pilot controlled from two points and one light controlled from one point.



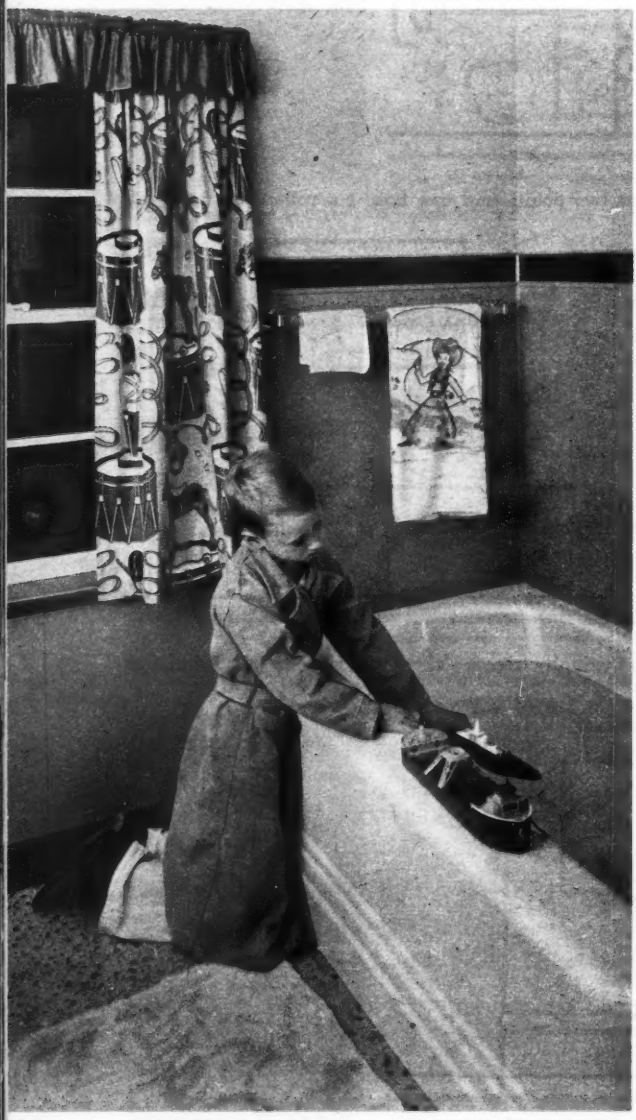
14. THREE LIGHTS are controlled individually from the same wall plate in this arrangement.



15. NURSERY OR HALL combination night light and outlet controlled by single-pole switch.

HOW TO MODERNIZE

WITH PLASTIC-FINISH PANELS



ONE way to bring new luster and beauty to your bathroom is to refinish it with a hardboard plank paneling such as Marlite. Available in a variety of colors and wood grains, this product has a tough plastic coating which is resistant to moisture, grease and acids, wipes clean with a damp cloth and stays like new for years. What's more, its low price—about 50 cents a square foot—makes it one of the most economical of wall finishes.

The paneling is quickly installed over old walls with special clips and adhesive. The adhesive isn't even necessary except that it gives the completed wall a more solid feel. Planks are 16 inches wide, 8 feet long and 3/16-inch thick. You can also get 16x16-inch squares. Molding for either planks or squares is aluminum, polished plain or with a baked-on matching finish. Matching or contrasting baseboards, door casings and other trim are also available.

Before installing planks, remove all moldings, switch plates, towel bars and, if possible, the toilet and lavatory. Patch any large cracks or holes in the walls, especially if they're near the tub or lavatory. Check the walls with a straightedge to find any high spots and then sand them down. Where the walls are really irregular, it may be [*Continued on page* 144]

YOUR BATHROOM

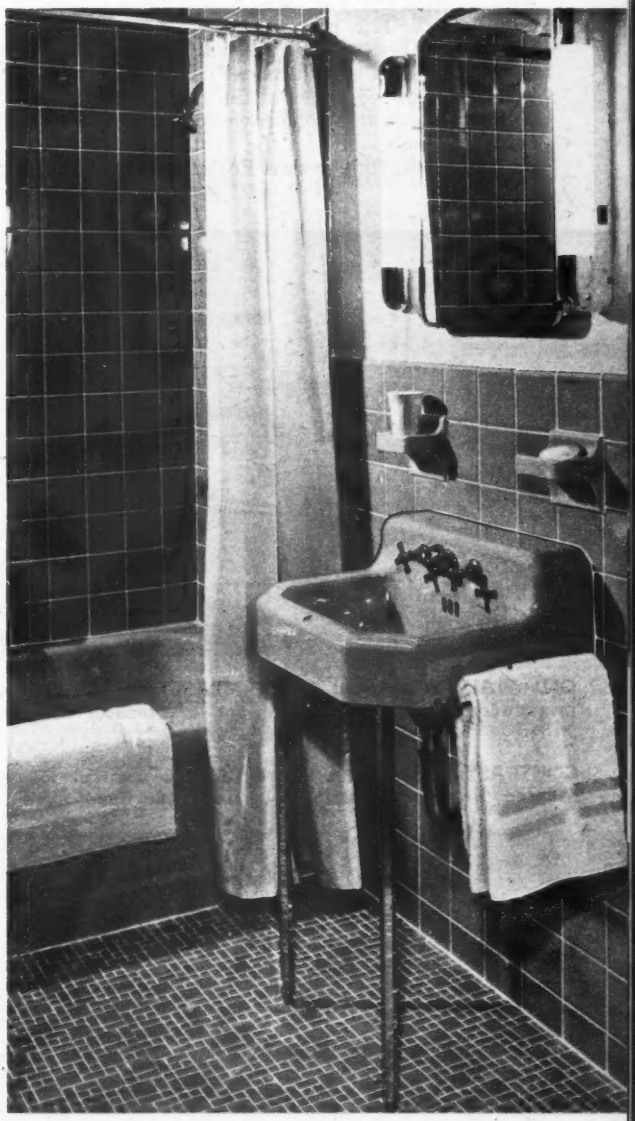
WITH CERAMIC TILE

Everybody is familiar with the advantages of a tiled bathroom, but it may be news to many that it doesn't take a professional to do an excellent job of tile installation. Actually, since the tiles are small, the work requires more patience than skill.

Ceramic tile and the necessary adhesive are available from dealers listed in your classified telephone directory and also from large mail order houses. In many cities you can buy directly from the tile distributers. The cost of materials for refinishing the average bathroom runs about $90; you can save an additional labor charge of $75 or more by doing the job yourself.

Besides the familiar 4½-inch square ceramic tiles, there are 1-inch squares and other shapes. Carefully measure your room to determine exactly how much tile you need. You may want the half-size "cap tiles" as an upper border and tiles with one glazed edge for rounding outside corners. For joints between the wall and floor, you can get cove tiles. You'll get the best buy on soap dishes, towel bars and other needed fittings by buying them in complete kits.

Before installing tile, repair any major cracks and nail holes with patching plaster or wood putty. Prime unpainted wood, plaster or plasterboard with a coat of priming paint or thin shellac. Use two coats in the shower areas. When you install the [*Continued on page* 145]



necessary to install furring strips, 16 inches on centers, to get a smooth backing surface; for the square blocks, install the strips 8 inches on centers. If the panels are to be applied over an exterior masonry wall, place the furring vertically and keep the base line slightly above the floor level.

Make a trial layout of panels on each wall so that the end panels will have equal width. This makes for better appearance. Always begin an installation at a corner and work around the room with the grooved edges of the paneling facing the area still to be covered. If any cutting is necessary on the first panel, make it on the tongue side. For a smooth cut with a hand saw, make the cut with the finished surface up; if using a portable power saw, turn the finished surface down. The best hand saw is a fine-toothed one with 10 to 12 teeth to the inch; it should be held at a low angle.

Cut metal moldings with a hacksaw, using a miter box to get accurate squares or 45-degree angles; then file the edges smooth. Where a molding turns a corner, cut away the flange for a snug fit. Moldings are nailed to the wall through the flange and into the studs wherever possible. Locate studs by driving nails into the area to be covered.

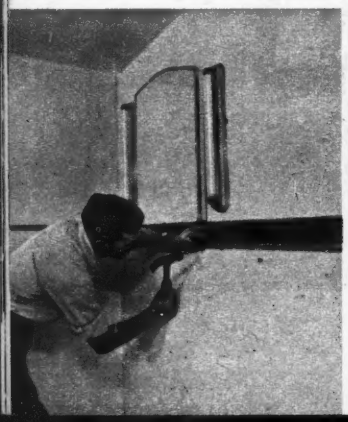
Moldings may be had for concealed flange or [*Continued on page* 146]

OLD WALL is stripped in preparation for the p meling.

MEASURING off the height for a wainscot installation.

THE MOLDING is fastened to wall with rock lath nails.

CONTRASTING top trim is secured between moldings.



PANELS are cut to proper size with fine-toothed saw.

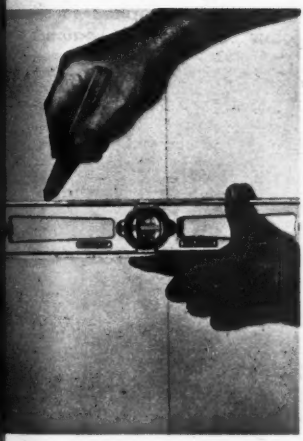
HIDDEN CLIPS lock panels together along the edges.

tile, sharp chips are likely to dig into your floor, so unless you plan to refinish the floor as well, cover it with heavy layers of newspaper. Do the same for the inside of the bathtub. Preferably, you should disconnect and remove the lavatory and toilet or you'll have to fit tiles around them—and that may not be so easy.

Various brands of adhesive are available. Follow the manufacturer's instructions for the brand you buy since the setting time for different brands may vary considerably. A gallon of mastic covers 50 square feet; about 2 gallons are needed for an average bathroom.

You can begin tiling any place on a wall and work either up or down. The important thing is to plan the placement of tiles so that they'll fit into a wall area with a minimum of cutting. Avoid any arrangement that will make it necessary to cut tiles into pieces smaller than 1 inch in width. Completely immerse wall tiles in water for at least an hour before they are to be used; then drain them thoroughly.

Don't use room corners or floor or ceiling lines as guides in placing tiles. Instead, use a spirit level to make sure you place the tiles in perfectly horizontal and vertical rows. You can easily slide tiles around after you've pressed them into the adhesive. Shift a whole row or more in this way if you find it necessary. If the tiles have ribbed [*Continued on page* 147]



USE A LEVEL to mark the horizontal and vertical lines.

TILE is pressed into special adhesive with a slight twist.

CHECK continually with the level as the tile is installed.

TILE LUGS and cardboard spacers assure even joints.

NIPPERS are used to cut tiles for even fit around the pipes.

NEWSPAPER is stuffed into this hole cut for soap dish.

PIPE HOLES have been cut in panel shown being fitted.

ADHESIVE is spread evenly with saw-toothed applicator.

PANEL will be held firmly by the clips and adhesive.

COVE MOLDING is installed after one panel is in place.

BASE TRIM in a contrasting color is nailed in place last.

CALKING is applied to the joints around the bathtub.

"plant-on" application. The latter, applied after the panels are in place and fastened with decorative escutcheon pins or screws, does not require close panel fitting. Never jam panels tight into concealed moldings; allow at least a 1/32-inch joint for expansion.

While a wainscot height may be carried around most of the wall, it's generally desirable to carry the paneling up to the ceiling in the area of a bathtub or shower. To do the job right, calking must be applied to the joint between the tub and the wall and the molding is then bedded in it. Special tub bend moldings are available for right- or left-hand bends with a bend radius of one and one half inches. Calking must also be applied to the vertical wall joints. To simplify the job, by reducing the number of joints, matching sheet material may be used instead of planks.

Where pipes are encountered, holes cut in the paneling need not be a snug fit; the pipe escutcheon plates will cover the space. Test fit these and all panels before applying the adhesive.

The adhesive is applied with a special, notched spreader supplied with the panels; by combing it out until the wall shows through at the points of contact, you will have just the right amount for a good bond. Some handymen prefer applying the adhesive to the wall and others apply it to the panel; however, keep it away from the panel edges. •

SUCTION CUP can be used to place or remove tiles.

TO CUT TILE, first score it, then snap it along the line.

CAP TILES are coated individually and then installed.

GLASS HOLDER is surface-mounted like ordinary tile.

GROUT is worked into all joints after adhesive sets.

RUBBER SQUEEGEE is used to remove the excess grout.

backs, place them with the ribs horizontal to provide a good grip.

Since corners may not be plumb, it is best to tile in toward a corner from both directions; then the tiles can be cut in varying degrees to compensate for the out-of-plumb line. To cut the tile, score the glazed surface with a glass cutter or an ice pick; then place it over a hard edge like that on a triangular file and, lining up the score mark with the edge, step on the outside edges to snap it. For easier cutting, rent a professional cutter from your tile dealer. This device makes it possible to score the tile accurately and snap it just by pressing down on a handle.

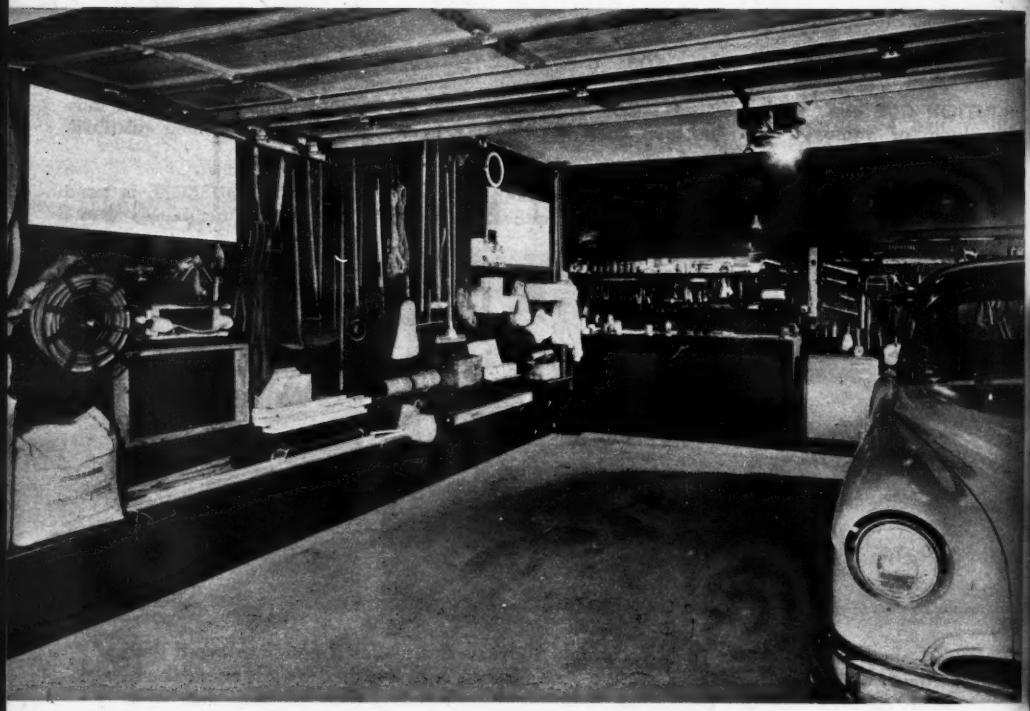
While the adhesive is applied to the wall for most of the tiles, it should be buttered on the cap tiles individually. Such treatment makes it easier to avoid getting excess adhesive on the walls above the tiles.

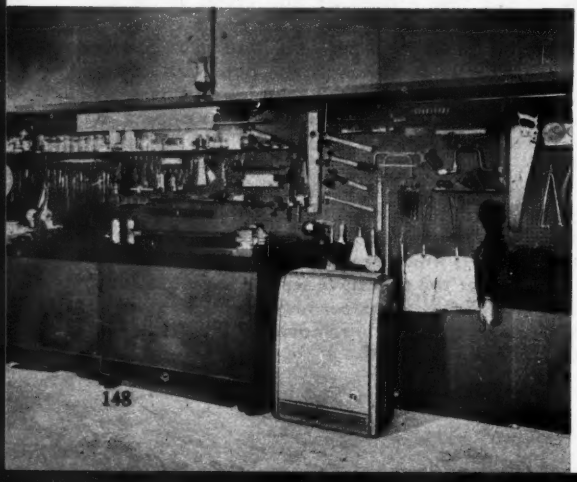
To install a recessed soap dish or grab bar, use a hammer and chisel to knock out the backing wall. If you hit a stud, you'll have to cut into it to provide the needed depth. Stuff the hole with crumpled newspaper and then insert a piece of wire lath or hardware cloth. Last, pack in Sakrete mortar and press the unit into place.

Floor tile is set with exactly the same technique as wall tile except that the tiles are not soaked. Small floor tiles come in sheets which are pressed in place as a unit. After the tiles have set for an hour in the adhesive, the paper holding the individual tiles together is removed by moistening it with water. ●

CAR CARE

Getting the Most Out of Your Garage



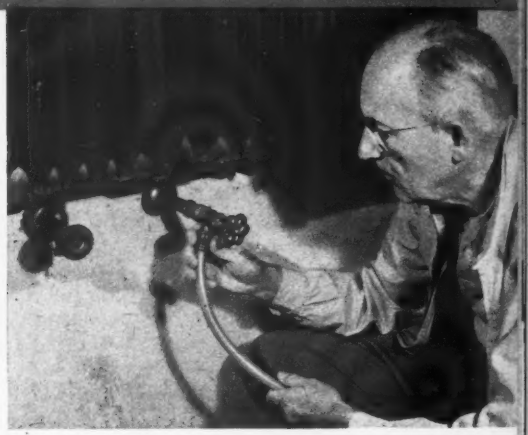


PERFORATED Board keeps tools in place.

TODAY'S home garage might well be called The Forgotten Plan. If our homes were slapped together with the same flippancy and lack of imagination as our garages there wouldn't be enough carpets to call our contractors on. With few exceptions the present day auto abode appears as an architectural mutation somebody reluctantly built to fulfill a contract.

The story of the decline of the home garage hand in hand with the tremendous growth of our four-wheeled population is long overdue. When it

GARAGING car is simplified by installing a 2x4 where front wheels should stop.



THREADED WATER FAUCET in garage makes car washing and hosing floor easier.

STEEL SHELVING also makes a convenient temporary work bench for those small jobs.

SELF-WINDING reel keeps light cord out of harm's way while trouble-shooting engine.

is told, and when buyers insist that these buildings be more than form-fitting sheds, we can look forward to a new generation of garages that are practical, roomy and architecturally correct. In the meantime we'll bravely make the best of what we have.

Most garages are too small for today's too-big cars. If you can ease the family buggy in without a shoehorn, you're lucky; if there's room enough left over to walk between rear bumper and garage door, you're living; and if you've an extra three feet of space remaining for storing bicycles, garden tools and lawn mower, then indeed you've a pearl without price. Hopefully assuming you fall in this latter category the question is: How can this spare space be put to work to benefit you and your car?

Heating

If you don't specifically order it, a contractor is not likely to provide heating facilities unless your garage is an integral part of the house. We hear a lot of talk from advertisers about cars that "start in the coldest weather." Fine. But what we don't hear about is the serious strain repeated cold-weather

AN OUTLET should be installed on each wall; double this number for two cars.

IDEAL GARAGES have floor drains. Otherwise floor must slant down toward doors.

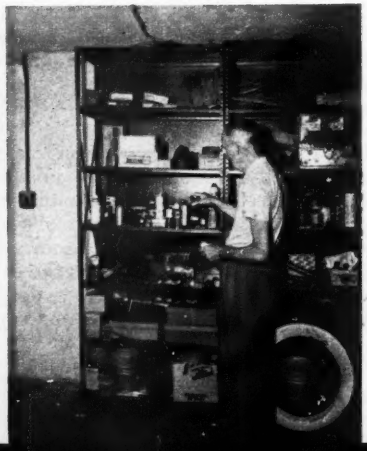
starting puts on an engine. So unless you live down below the 35th parallel you ought to install a heater in your garage.

Hot water radiators are ideal. Leading hot- and cold-water pipes from the house to the garage is a fairly simple job and well worth the trouble. Even this minimum plumbing will permit you the convenience of a small sink for quick wash-ups before returning to the house. Hot water radiators are safe, too, and require little or no maintenance.

Blower-type electric, gas, and oil burning heaters are becoming increasingly popular as garage installations. Both General Electric and Westinghouse make a forced air unit suitable for the average garage that can be used either as a portable heater or installed on the wall or ceiling. Thermostatic controls on both these units are optional. These are good heaters, not too expensive ($75-$80), and will heat up a cold garage in record time.

There's a notorious dearth of electrical outlet boxes in most garages. One double-plug box is usually the rule. Often even this is installed arbitrarily at some hard-to-reach spot. If you plan to use any power tools in your garage you will want enough conveniently placed outlets to facilitate their operation. A battery charger and power buffers and polishers are electrically operated equipment you may be using regularly in the course of maintaining your car. These outlets will come in mighty handy too when you're trouble

OVERHEAD DOORS are practical, easy to operate. They are invariably the type used with today's garages.



ADJUSTABLE steel shelves keep tools and equipment off the floor. More units can be added when needed.

shooting your car with a work light.

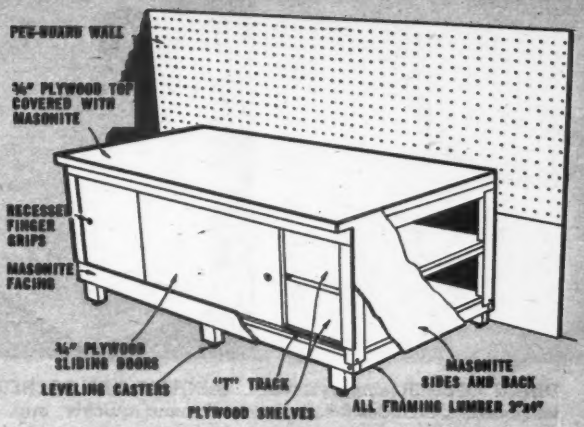
To bring up the electrical wiring in your garage to a practical level will probably necessitate the installation of conduit or flexible BX cable along the inside walls. In most cases this should be run around the three walls about four or five feet from the floor. One double-plug box on each wall will suffice for most one-car garages but at least double this number is recommended for larger ones.

This is a good time to consider the position of switches and other electrical installations you may want to make. A good place for the light switch is within arm's reach of the driver as he enters the garage. This will allow him to leave the car without cracking his shins on junior's bicycle. It is easily installed on the left-hand side of the door frame. If you're planning an outside floodlight you can hook it up with this box or else give it its own switch by installing a two-switch box.

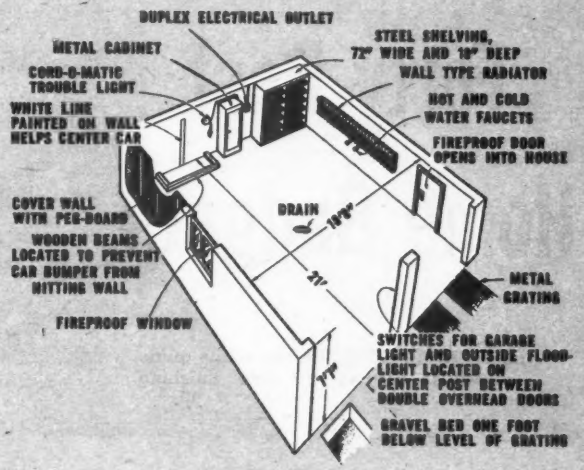
Keep It Cool

Those car-care fellows who will be spending more time in the garage than most of us will be quick to see the advantages of installing an exhaust fan. The wiring for this can lead from your main conduit or BX line. The advantages of an exhaust fan will be apparent in hot weather when most unventilated garages become veritable ovens.

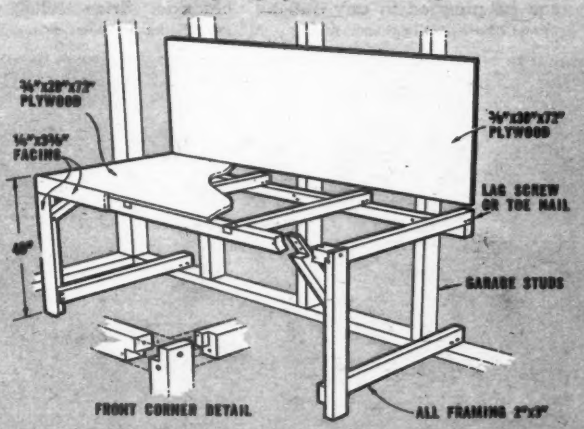
Speaking of hotboxes, there is really no reason why your summertime [*Continued on page* 168]



DETAILED DRAWING is of bench pictured on title page.



FLOOR PLAN of ideal garage puts available space to use.



A SIMPLE WORKBENCH is easy to install in any garage.

DRAIN OPENER employs water pressure, includes 6-ft. hose.
Meuret Co., Dayton, Ohio

ELECTRIC CAN OPENER opens all cans quickly and safely.
Burgess Vibrocrafters, Grayslake, Ill.

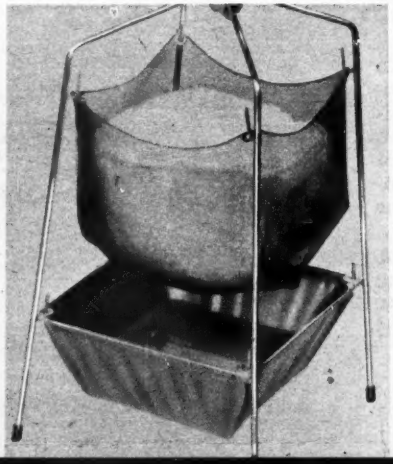
HIDE-A-TRAY of styrene and aluminum clips to sink trap.
Chicago Specialty Co., Chicago

Forty Best Home Gadgets

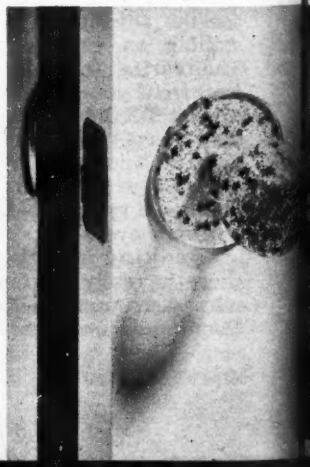
ELECTRIC SHARPENER has angle guide, reversible oilstone for fine finishing.
Britten Co., Cranford, N. J.

NIGHT LIGHT is adjustable, can be plugged in any outlet.
General Electric Co., Providence, R. I.

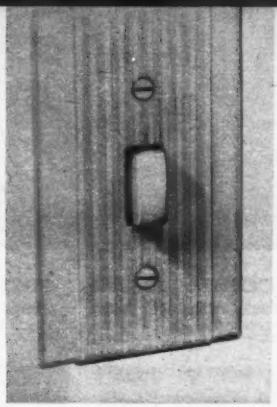
DEHUMIDIFIER uses calcium chloride, dries 1,000 cu. ft.
Polo Plastics, Milwaukee, Wis.



LUCITE DOOR KNOBS are decorative and easy to install.
Fluoro Plastics, Philadelphia, Pa.

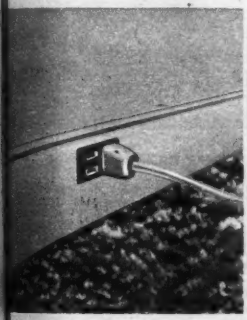


WATER HEATER fits on faucet, heats tap water electrically.
Landam Prod., Great Neck, N. Y.



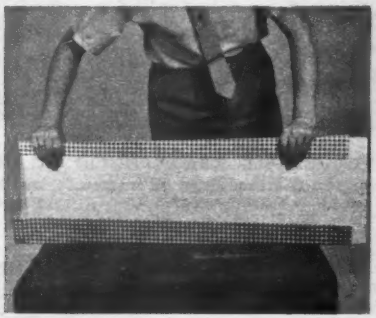
TAP ACTION switch operates with gentle finger tip touch.
Arrow-Hart, Hegeman, Hartford, Conn.

STOW-A-WAY storage drawers fit under any type bed.
Nash Mfg. Co., Cleveland, O.



PLUGMOLD baseboard provides outlets every 30 or 60 in.
Wiremold Co., Hartford, Conn.

FIVE-YEAR HOUSE LAMP will outlast 13 ordinary light bulbs.
Eternalite, 401 B'way, N.Y.C.

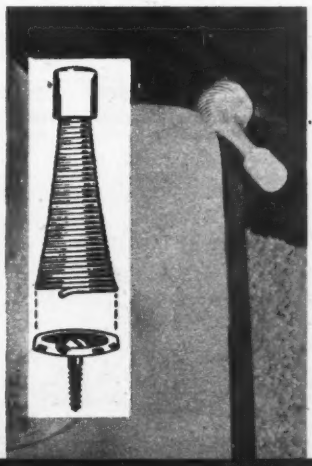


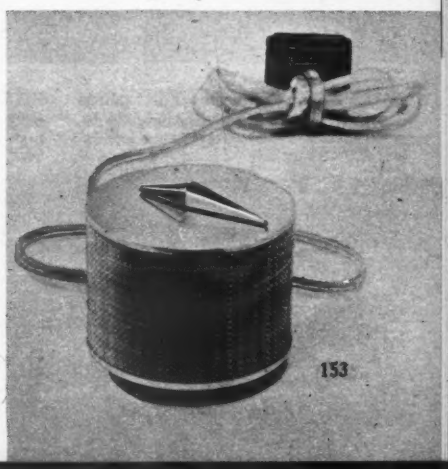
DECORATE shelves with self-sticking Decor-Exe plastics.
Bolta Products, Lawrence, Mass.

WINDOW WASHER cleans outside of windows from inside.
Continental Industries, Chicago

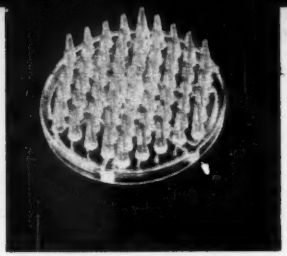
DOOR STOP of rubber-tipped steel spring flexes on impact.
Ideal Brass, Inc., St. Paul, Minn.

LIGHT CONTROL is dialed to brighten or dim illumination.
Superior Electric, Bristol, Conn.

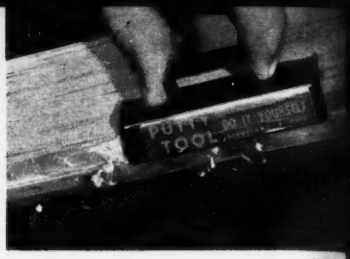




POOL GUARD rings when any object over 13 pounds falls in.
Supertron Corp., 4139 Verdugo Rd., Los Angeles 65, Calif.

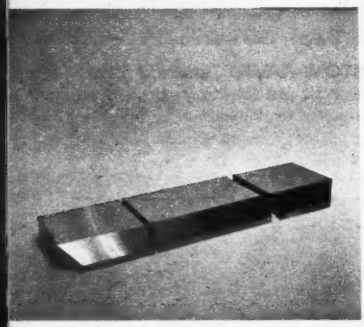


PLASTIC-TOOTHED furniture caster protects nap of rugs.
Childlore Co., 331 Southwest Blvd., Kansas City 8, Mo.

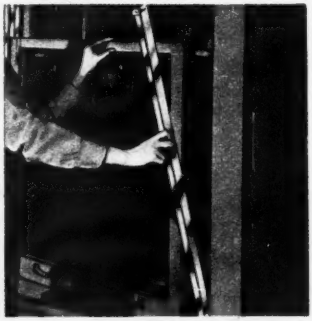


PUTTY SMOOTHING DEVICE trims and molds putty to line.
Hiram Products, Cleveland 18, Ohio

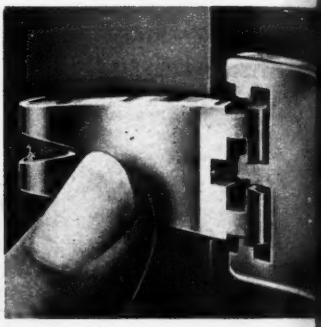
HANDI for cle
Virginia



ADJUSTABLE RANGE HOOD expands from 30 to 50 inches.
Metal Units Co., 103 Park Ave., N.Y.C.



SASH WINDOWS can be made removable with runners.
Winseal-Windout Co., Oakmont, Pa.



DOOR LOCK secures any door without drilling or tool use.
G. L. C. White Co., 1593 Crossroads, L.A.

FLAGS used t
Castle Mo

HOSE COUPLER locks with a push, opens with half turn.
Stillcraft Co., St. Louis, Mo.

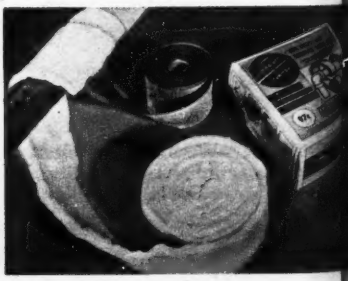
COMPRESSED AIR GUN is used to clean clogged fixtures.
Miller Sewer Rod Co., 4642 N. Central Ave., Chicago 30

PIPE WRAPPING KIT insulates and prevents condensation.
Fibre Glass-Evercoat Co., Cincinnati, Ohio

FOOT workshi
Square D
Milwaukee

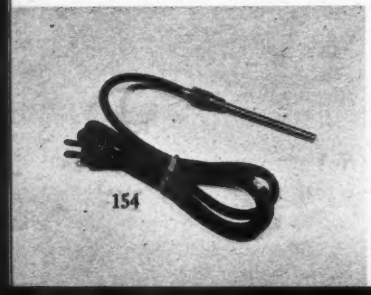
CRANKCASE HEATER plugs into line and dipstick hole.
Phillips Mfg. Co. Inc., 2816 Aldrich Ave. So., Minn. 8.

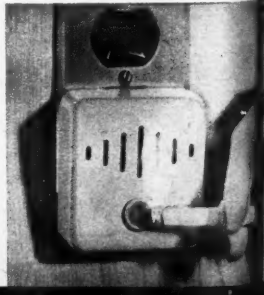
PHOTOELECTRIC WATCH-dog turns on lights at dark.
Lewis & Conger, Manhasset, N. Y.



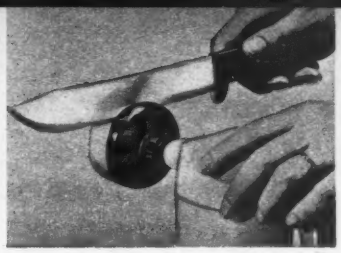
FIRE ALARM fits outlet; bell sounds if temperature rises.
Laramie Chemical Corp., 290 Main Street, Stamford, Conn.

ONE-W housew
Hawthorne





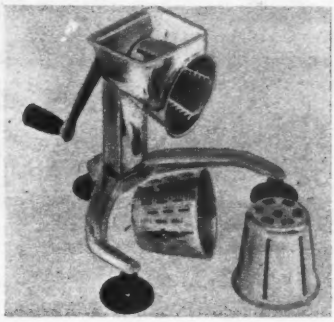
HANDLE BENDS on this mop for cleaning under furniture.
Virginia Plastics, Roanoke, Va.



KNIFE SHARPENER can be used with any electric drill.
Disney Co., 320 S. Franklin St., Chicago 6

MONITOR turns off TV sound if baby cries: mike in nursery.
Lewis & Conger, Manhasset, N. Y.

FLAGSTONE FORM can be used to cast various shapes.
Castle Mold, Glendale 3, Calif.



SALAD SHREDDER cuts fruits and vegetables; suction base.
Damar Bldg., Elizabeth, N. J.

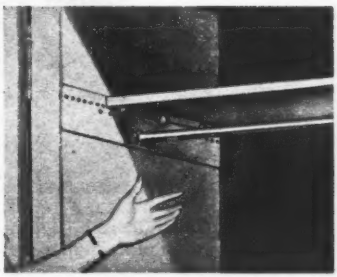
LIQUID RUBBER WEATHERstrip is applied by bottle.
Meridian, 366 Madison Ave., N.Y.C.

FOOT SWITCH can control workshop tools up to 1 hp.
Square D Co., 4041 N. Richards St., Milwaukee 12, Minn.

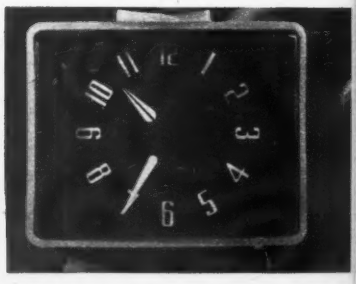
EXPANDING METAL SHELF can be adjusted to fit closets.
Home Comfort Mfg. Co., 3300 N.E. Adams St., Peoria, Ill.

CLOCK sounds off in 10-minute intervals for extra snoozes.
General Electric Co., Ashland, Mass.

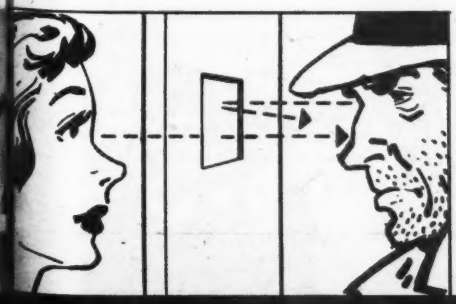
ONE-WAY MIRROR permits housewife view caller, unseen.
Hawthorne Mirror Co., Hawthorne, N. Y.

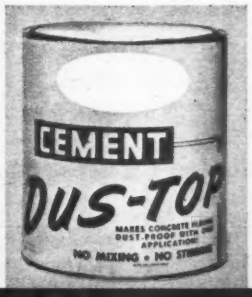


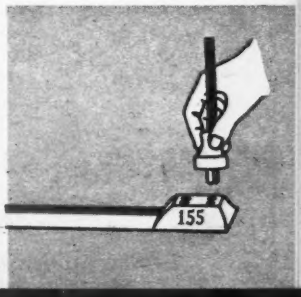
DUSTY CONCRETE FLOORS can be cured with this product.
Rooto Co., Detroit 12, Mich.



EXTENSION CORD has wide triangular base to hug the floor.
CMG Industries, Laramie, Wy.







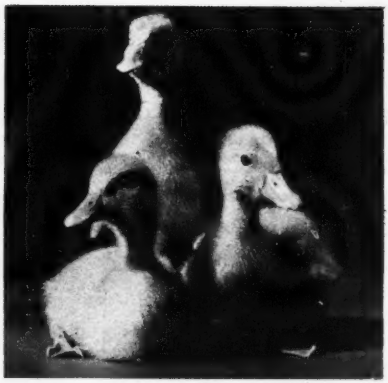
MONTHLY

PHOTO CONTEST

Please put your name, address and picture-taking data on back of each print. Wrap with cardboard stiffeners and enclose a self-addressed stamped envelope or postage for return of unused photos. Prize-winning pictures are not returned. Judges are MI Editors. Duplicate prizes awarded in case of tie. Address entries to: *Mechanix Illustrated*, Photo Contest, 67 W. 44th St., N.Y.C. 36.

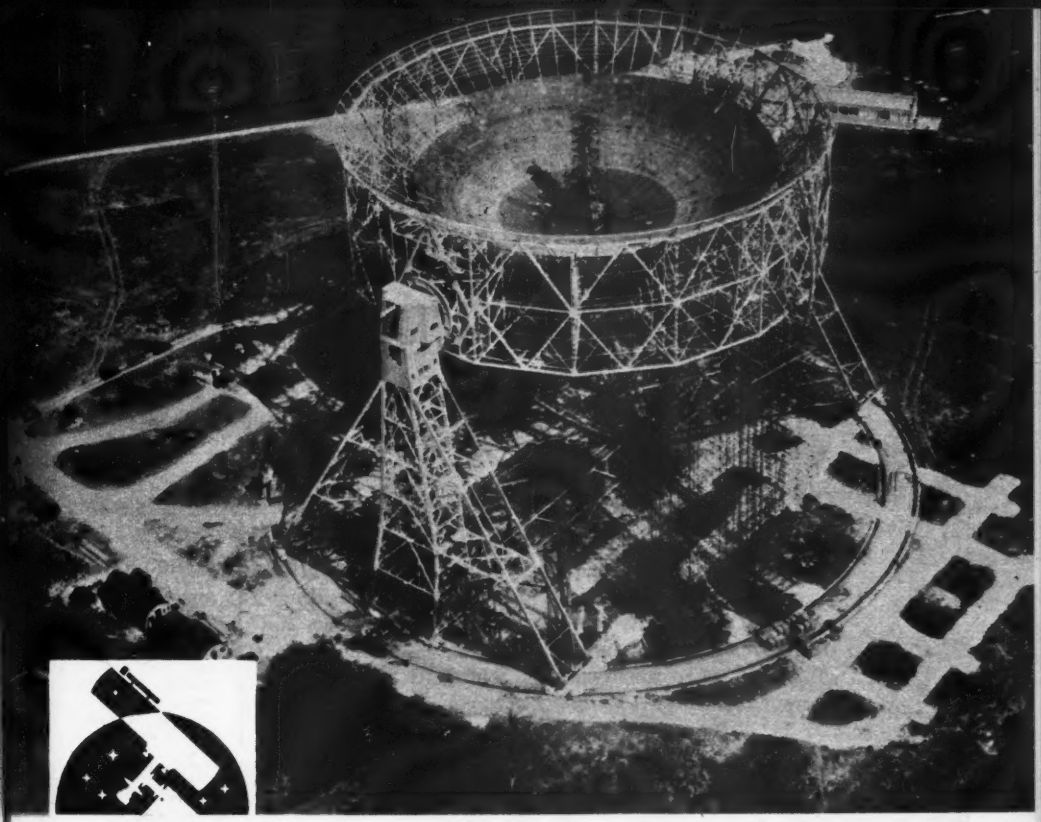
1st Prize ($25) .....Silhouetted Skyline
John Hendry, Chicago, set Rollei for 1/25th at f-11.

$10 Award .....Ducklings
Joseph Adams, of Brookhaven, N. Y., shot with Speed Graphic set for f-8 at 1/25th.



$10 Award .....Jefferson
Nikon, loaded with Panatomic X, was used by Bob Ohl, Berwick, Pa.; 1/30th at f-4.

$10 Award .....You First, Friend
Sidney Coplan, Baltimore, used Rollei; f-8, 1/100th.



The Amateur Telescope Maker's Page

LENSLESS TELESCOPE

A NEW 2,000-ton radio telescope will come into service soon at the Jodrell Bank Research Station in the English county of Cheshire. The giant size of this telescope will make it the most sensitive radio receiver ever constructed and the only automatically steerable radio telescope in the world. It will follow automatically, any star at which it is aimed, in its course across the sky.

It is a *radio* telescope and its chief function is to probe out into space and fathom the mystery of why certain stars emit radio signals at various frequencies. It will reach out into space a distance of a thousand million light years, several times further than the giant 200-inch telescope at Mount Palomar. This giant instrument will also be able to send radio signals to the planets and receive the echoes. It will be also used to track the satellites soon to be launched.

The control desk and the computer mechanism for following a given star are all in a building about 200 yards from the center of the telescope. An underground tunnel connects the control room to an annular chamber surrounding the middle of the telescope. This tunnel carries power, control and radio cables and is large enough for pedestrian use.

When the telescope is used to receive radiation from outer space, the amount of energy concentrated on the aerial at the focal points [*Continued on page* 190]

Introducing the most practical tool you'll ever own!

NEW PORTER-CABLE
ELECTRIC HAND SAW WITH
ORBITAL ACTION!

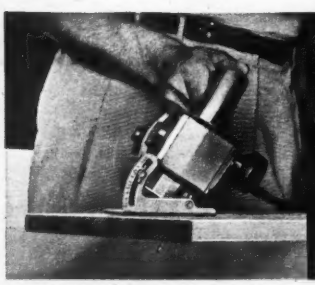
The saw that does everything 3 times faster!

This versatile tool is actually seven saws in one . . . it's a rip saw, cross-cut saw, coping saw, keyhole saw, scroll saw, jig saw and hack saw! It makes inside cuts without drilling a starting hole — has a comfortable handle, and cuts 2" dressed lumber, 1/4" aluminum and 1/8" steel. For hundreds of jobs — from rough-cutting to intricate scroll work, Porter Cable's Model 152 Saw has no equal! Only **$54.95**

(Handy wall kit with accessories, $5 extra.)

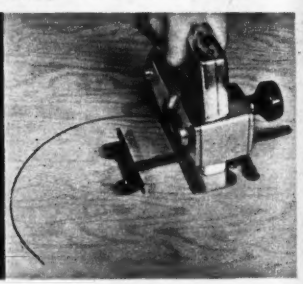
World's only orbital action hand saw

Most efficient cutting cycle! Blade moves ahead on cutting stroke – moves back and away on relief stroke. No dulling 'drag'–blade runs cooler, lasts far longer, cuts faster.



Easily cuts accurate angles up to 45°.

Cuts sheet metal, pipe bar stock quickly.



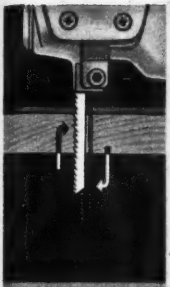
Circle cuts, too, perfectly and quickly.

Model 136 can't be beaten for quality or price.
ONLY $69.50

Get professional results with this 3" Belt Sander!

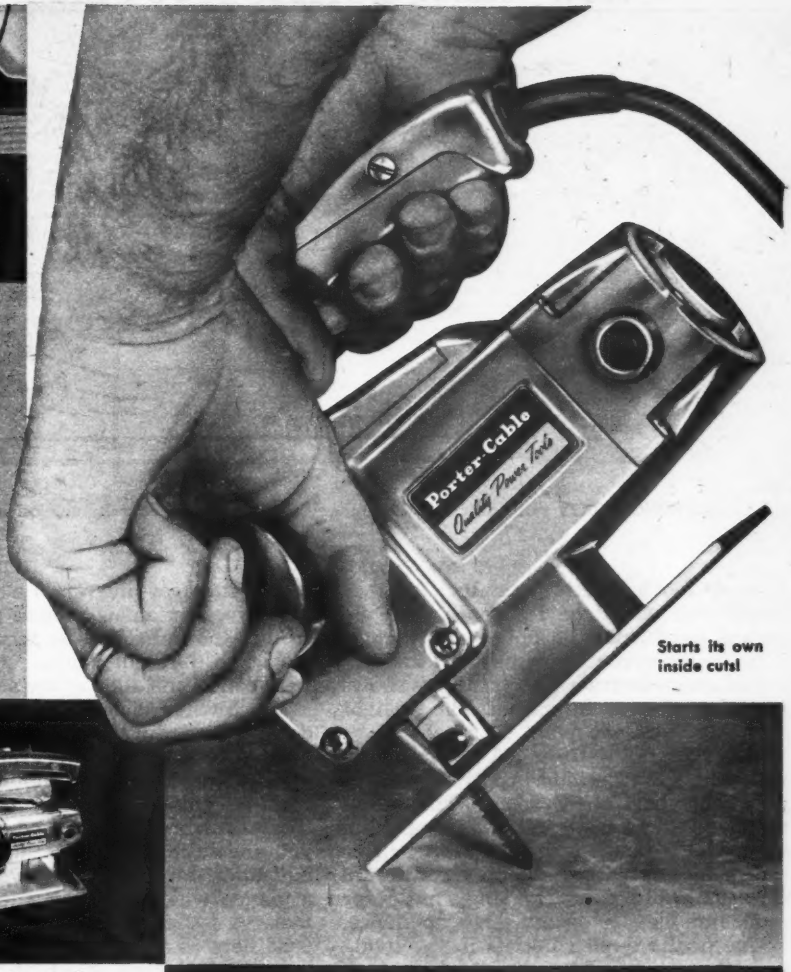
The famous Model 136 Belt Sander and the new electric Hand Saw make a perfect combination for doing all kinds of jobs easier . . . faster . . . more professionally than ever!

Model 136 produces a fine, straight line finish without ripples or gauges. With the right abrasive, it quickly handles any surfacing job from rough sanding to fine finishing. Simple, positive controls make this Sander easy to operate — and a special belt tension device permits changing abrasives in seconds. Use it in any position.

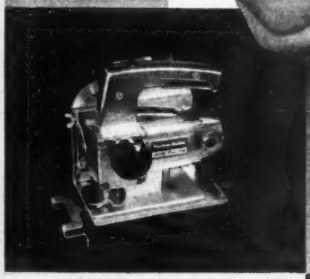


IT CUTS

LUMBER
PLYWOOD
STEEL
PLASTICS
MASONITE
PLEXIGLAS
ALUMINUM
IRON
ASPHALT TILE
BRASS
BRONZE
COPPER
LEATHER
LINOLEUM
RUBBER
LUCITE



Starts its own inside cuts!



Handy kit mounts on wall or workbench.

Porter-Cable
Quality Power Tools

shapers • saws • sanders
drills • routers • planes

SEE YOUR DEALER OR MAIL COUPON TODAY!

PORTER-CABLE MACHINE COMPANY
7260 N. Salina Street
Syracuse 8, N. Y.

Please send me literature and complete information on your new electric Hand Saw and Model 136 Belt Sander.

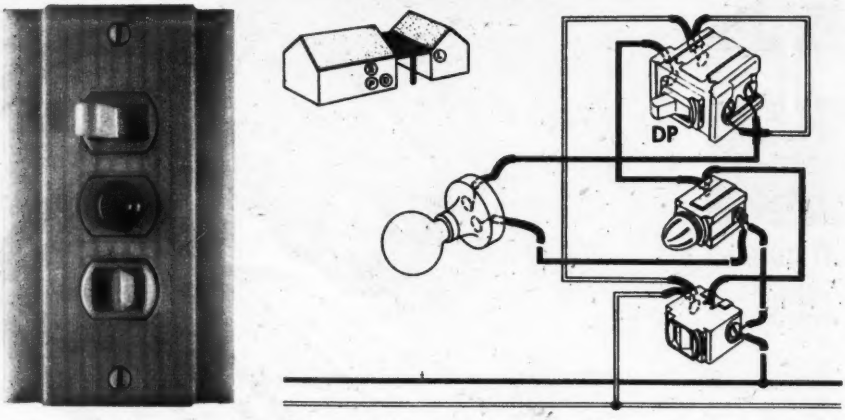
Name_____

Address_____

City_____ Zone____ State_____

In Canada: write Porter-Cable, Ltd., Box 5019, London, Ont. Canadian prices slightly higher.

[*Continued from page* 136]



16. GLOWING PILOT will indicate that outlet is live and garage light is on in this case.

from the foot and head of a stairs. Another application would be for controlling the garage light from the house and garage.

In the living room you may find the wiring in photo-diagram 3 useful. This shows a single-pole switch for controlling a light or lights from one point. These may be ceiling and wall fixtures. Another single-pole switch is inserted to control an outlet in another part of the room. This outlet may feed a floor lamp and table lamp, both turned on and off by the wall switch or independently with the lamp switches. In the same wall box is a hot single outlet for a vacuum cleaner or any other appliance.

One of the duplex outlets in the living room may be wired as in photo-diagram 4. This is a radio combination consisting of two power outlets and a special outlet for antenna and ground connections. The special outlet has one contact set at an angle to receive a matching cap plug. The design of the cap plug prevents it from being plugged into a hot outlet by mistake. A box divider should be installed to isolate the antenna and ground connections from the power circuit. The separator is furnished with two break-off scores to accommodate boxes of various depth.

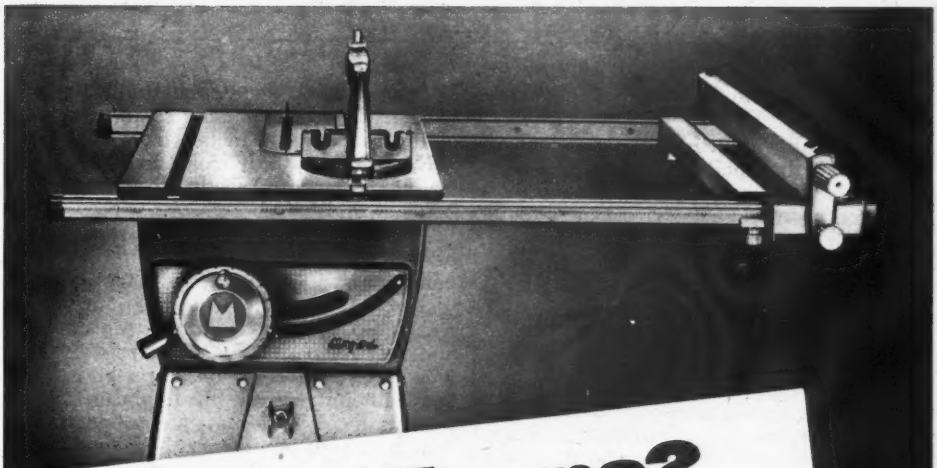
Photo-diagram 5 is another combination useful in the living room. A pilot light wired with the entrance light will remind you whether the outside light is on or off. This same setup could be used for the attic light. In photo-diagram 6 a similar setup is shown using a pair of three-way switches so that the light may be turned on or off from two different points. Another pilot light can be installed at the second switch.

The kitchen usually leaves much to be desired regarding wiring. One improvement would be at the refrigerator or freezer outlet. If a fuse should blow in the circuit feeding this outlet, chances are a freezer full of food would be spoiled before you knew the line was dead. A pilot light indication for the outlets would show at a glance whether or not the circuit was live. A 1/25th-watt neon pilot should be used here as it does not give off heat and will last for years. Such an arrangement is shown in photo-diagram 7.

Other places for pilot-indicated outlets are where you use such items as an electric iron, soldering iron or sterilizer. The pilot light outlet is similar to a regular outlet except that it has an opening at the rear for a wire that connects to one terminal of the pilot. Also useful in the kitchen is the combination shown in photo-diagram 8. This is for controlling outlets from two points; it's good for switching on the electric coffee maker from the bedroom or perhaps a window fan or small radio.

Photo-diagram 9 shows a system that can be used to link the kitchen and bedroom or dining room and porch. A pair

[*Continued on page* 162]



Why Magna?

—Because MAGNA's new, complete family of superior power tools incorporates the first significant design contributions in over a quarter-century!

Here's why the MAGNA 9-IN. TILT ARBOR SAW tops them all: • *Increased Capacity*—exclusive "Helping Hand", a built-in table extension permitting rip cuts up to 26", 125% more effective table area! • *New Ease of Operation*—one-knob control for blade height and tilt, exclusive Speed-Gear (45° tilt in only 10 turns, no roll-back!) • *Integral Precision*—self-aligning fence locks *down* front and rear with one knob! • *Rugged Durability*—solid-cast tub front with self-contained trunnion; massive cast-iron carriage! Basic Saw only $119.95, delivered! (MAGNA 8" T/A Saw only $66.88.) Mail coupon today for *free Magna-Line* catalog!

Own the Magna 9-in. Saw for as little as $1.26 a week!

MAGNA-LINE tools for home and industry include (l to r): 9" Saw-Jointer, 11" Band Saw, 18" Jigsaw, 4" Jointer, 6" Belt Sander, Compressor-Sprayer, 30" Lathe, 12½" Drill Press. (Also the new MAGNA Thrifty-Three: 8" T/A Saw, 12½" Jigsaw, 4" Belt Sander.)

MAGNA POWER TOOL CORPORATION

World's largest independent producers of power tools

Dept. 701-MI, MAGNA POWER TOOL CORPORATION
Menlo Park, Calif., OR Box 2808, Fort Wayne, Ind.
Please send me your free, illustrated MAGNA-LINE catalog:

*Name*_____

*Address*_____

*City*_____ *Zone*____ *State*____

® T. M. REG.

Breakfast Nook

[*Continued from page* 127]

what. They don't look pretty but they sure do the job.

After you have outlined the positions of the studs with pencil lines, drop a plumb bob to the floor and mark the center of each stud at the floor level. This is important as all holes and guide lines will obviously be covered up when the paneling is installed.

The next step is to nail the furring strips supplied in the kit to the wall. Nail them parallel to the floor about 12 inches apart.

After all the furring strips have been installed, stack up the plywood so that their pattern has some sort of continuity. Start in at the furthermost corner and face-nail the first strip to the furring with 1½-inch brads. Then insert the special clip supplied with the kit into each furring strip. These clips are ingeniously designed with a pair of ears so that one ear faces right and engages the panel already installed while the other ear faces left and engages the coming panel on its left.

The random-width panels are all eight feet high, so, if your wall is more than eight feet in height, you will have to pad out the lower area with some scrap quarter-inch plywood. Then the joint between the scrap plywood and the finished paneling is covered up with a horizontal strip of paneling about five inches wide as shown in the photo. This bottom strip is in turn joined to the floor with cove moulding. The Kentile Company makes moulding which is ideally suited for this purpose. It comes in four-foot lengths, is 1½-inches high and is available in several colors. Cement it to the new baseboard with adhesive; it makes a fine protective strip around the room.

With each Dormalux kit you will find four wooden support rails complete with retaining clips and screws. The seat support rails which are 1⅛ inches thick should be fastened through the panels and into the studs of the wall so that the top edge is 12 inches from the floor. Use the three-inch flathead wood screws supplied with the kit. This is the time where the locations of the studs which you have marked on the floor will come in mighty handy. Use a level or the bob to transfer the stud positions to a height of about 36 inches above the floor. The back support rails which are ⅞ inches thick, should be similarly fastened to the wall surfaces so that the top of the rails are 34 inches from the floor.

Now that the four cleats have been installed, they are ready to accept the benches and backs. First, however, screw the wrought iron legs supplied to the ends of each seat as shown in the photo. At this point you will probably be very anxious to try out the bench and see if it really works. So, go right ahead. Lift up the seat and rest it on the seat support rail. You will probably have a bit of misgivings as to whether it will fit, but lo and behold it fits very nicely and this is your opportunity to admire your handiwork. Now install one of the backs, then the center piece and finally the second back.

These kitchen seats are made of heavy gauge elastic-backed vinyl plastic which wipes clean with a damp cloth. The table, if you decide to get one, has a top of Formica. We were pleasantly surprised with the over-all quality of the Dormalux unit. No-sag springs, real hardwood frames and easy-to-follow instructions made it a cinch to assemble.—*Robert Brightman*

New Wiring Devices

[*Continued from page* 160]

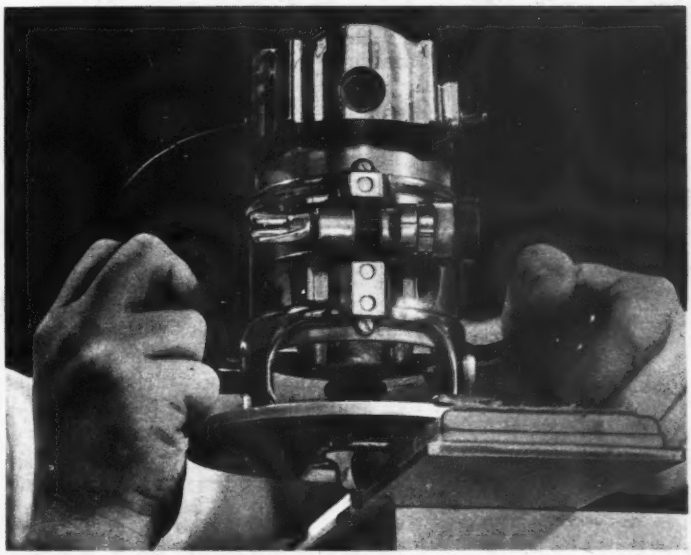
of three-way switches control one light from two points. Another pair controls another light from two points and a single-pole switch controls one light from one point.

The type of wiring used should adhere to the wiring code prevailing in your locality. In some places only rigid conduit is permitted and in others BX or sheathed cable may be used. The size of the wires should be at least number 14 and preferably number 12 for ordinary lighting and plug-in appliances.

To determine the number of outlets and lights permissible on one circuit, add the combine wattage of the appliances and lights that will be used and divide by the voltage. For example, 1100 watts divided by 110 volts equals 10 amperes. This circuit will be amply protected with a 15 amp fuse. CAUTION: before starting any electrical work always remove the fuse.

—*R. J. Capotosto*

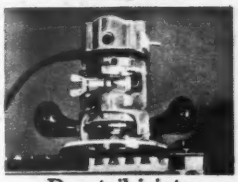
New Black & Decker 3/4 HP Heavy Duty Router ...the complete woodworking tool!



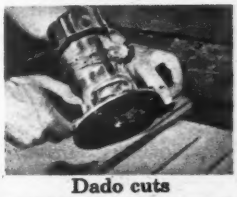
Template routing

Mortise & tenon joints

Molding cuts



Dovetail joints



Dado cuts

Inlay work

Easy to use, gives professional results!

If you've thought of a Router as a one-job tool, then look at the pictures on the right. The versatile Black & Decker Router handles dozens of cuts—beading, grooving, routing, fluting, inlay work. Ideal for building furniture, cabinets, hanging doors, shutters, weatherstripping, etc.

Light and compact, this new B&D Router has extra power to do every job in a jiffy. Special features for easier handling, accurate adjustment and fast bit changing. Only **$59.50**

Compare the power—compare the price!

B&D ROUTER KIT gives you Router, six popular cutters, Straight and Circular Guide in handy metal kit for only $88.00—save $5.75

WRITE TODAY for new B&D Router Manual—loaded with illustrations, project ideas, professional tips. Send only 50c with name and address to: The Black & Decker Mfg. Co., Dept. R107, Towson 4, Md. (In Canada: P. O. Box 278, Brockville, Ont.)

Look under "Tools-Electric"

Find Your B&D Dealer in the 'Yellow Pages'

Black & Decker®

World's Largest Maker of Electric Tools

Tropical Basement

[*Continued from page* 113]

enough, so you can afford the little time required for the best results.

Put up the first panel at a corner and with the tongue on the open side. Plumb it with a spirit level even if it means leaving a narrow space away from the corner wall.

Drive a nail through the top center of the panel into the ceiling plate so that the panel swings free. Now place a long spirit level against its side and move the panel until the bubble is centered in the horizontal glass. Hold the board in place while you drive a nail through the bottom. The nails at top and bottom of the panels will be covered later by the molding and baseboard. Put several nails into the panel near the corner wherever it crosses a horizontal furring or stud. These nails are covered when the other corner panel is butted against it.

Now, through the open side of the panel, drive a one-inch finishing nail into the furring. By driving the nail through the corner formed by the tongue where it projects from the panel, rather than through the tongue itself, there is little chance of splitting the wood.

The last stage of the job requires installation of the molding at top and bottom of the paneling and around all wall projections such as window and door frames. If all the walls have not been paneled, the end panels can be trimmed with cove molding. Install the baseboard molding along the bottom and a base shoe at the floor edge. But if the molding around the ceiling, door frames, and windows is to suggest Southern breezes and lush tropicana, then the logical trim here can only be bamboo.

All molding should be naturally finished same as the wall panels. Countersink the nails and fill the nail holes with putty that has been colored to match the walls.

Take your time and get it right. This is no weekend project and the more care you devote to the revamping, the more satisfied you will be with the results. •

6 Big Reasons why INDESTRO

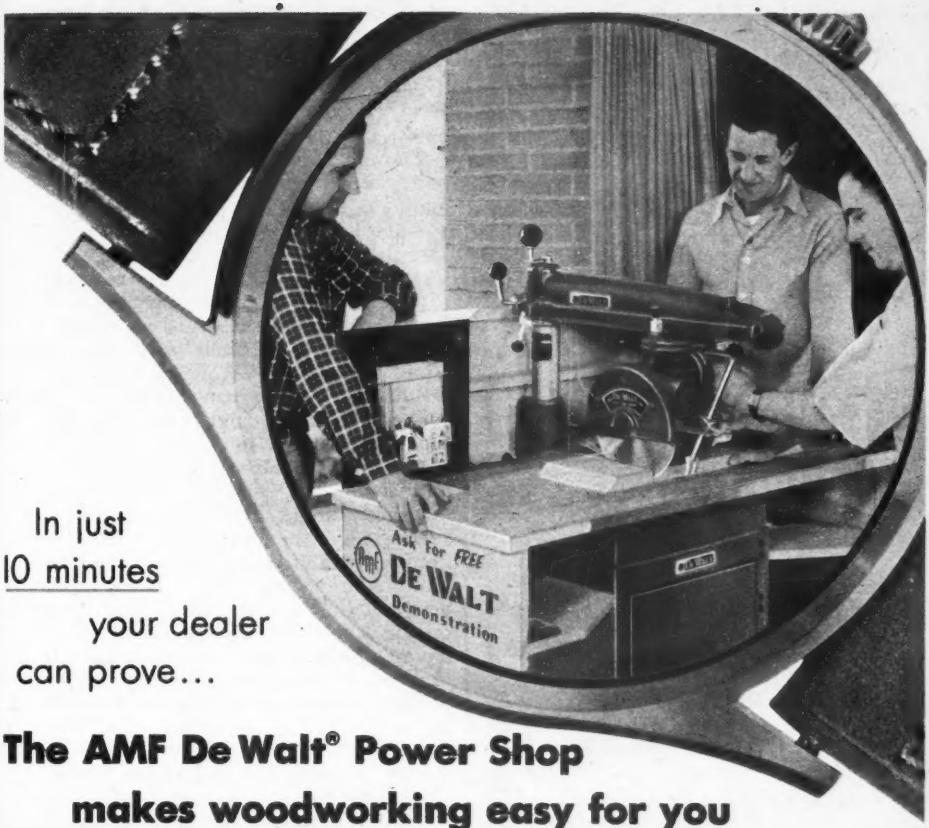
is the world's finest ratchet wrench

See and "Feel"
the Indestro Ratchet Wrench at the hardware, implement, auto supply or variety store that sells Indestro Tools — or write us for name of your nearest Indestro Dealer.

Your ratchet wrench is the real heart of your hand tool set—and when it's Indestro, you have the best ratchet obtainable. It is a precision tool, designed for the master mechanic — yet priced within the reach of the average mechanic, farmer or home workshop owner. And it's just one of a complete line of Indestro hand tools that are "tops" for value and quality.

Also makers of nationally advertised DURO Power Tools

INDESTRO MFG. CO.
North Kildare at Schubert • Chicago 39, Ill.



In just
10 minutes
your dealer
can prove...

The AMF De Walt® Power Shop makes woodworking easy for you

SEE Safer, easier top-side cutting

SEE Direct-drive power, no belts, no pulleys

SEE De Walt's exclusive safety features

SEE Layout marks visible every cut, no mistakes

SEE Work moves straight—saves 75% floor space

SEE De Walt becomes 12 professional tools in 1

See for yourself why DeWalt's original radial arm design, big capacity, and unsurpassed accuracy make it the finest, most valuable all-purpose power tool you can own.

Your dealer will quickly show you how a DeWalt saves the cost of a shop full of tools—makes all home woodworking fast, easy, safe... fun! How you can make furniture, build in cabinets, finish off the attic or basement, make home repairs... do all those things you've always wanted, *even if you've never used a power tool before!*

See your Franchised DeWalt Dealer for a Free, *convincing* demonstration today! Easi-Budget Terms—10% down, 2 years to pay!

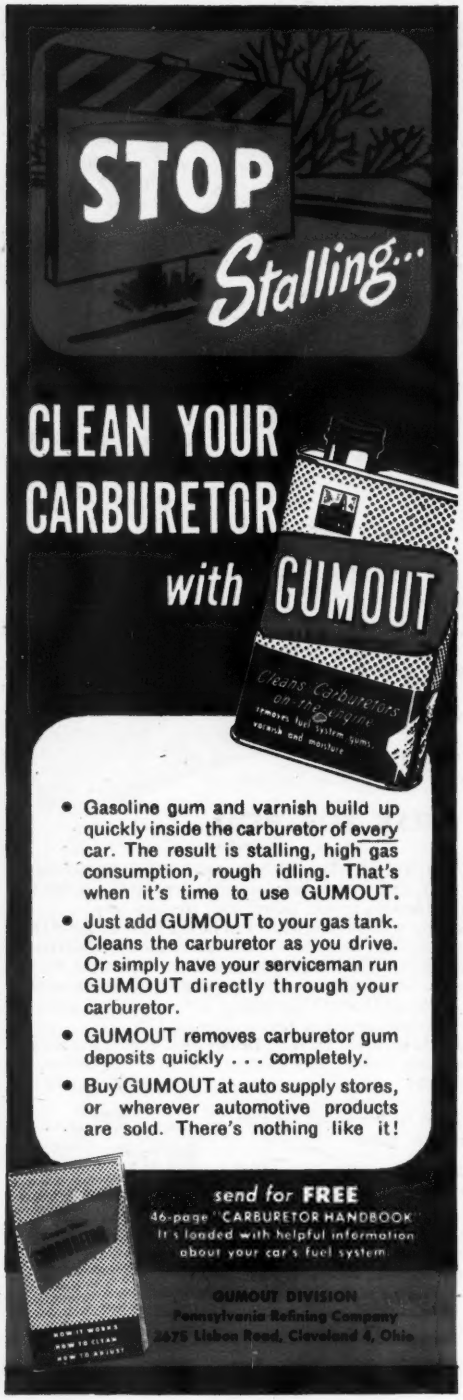
Send the coupon for free booklet and name of nearest DeWalt dealer.

Owners! Send for valuable new DeWalt Woodworking Manual, just $3.95 pp.

Another AMF Product
DE WALT POWER TOOLS

DeWalt Inc., Dept. MI-710, Lancaster, Pennsylvania
Subsidiary of AMERICAN MACHINE & FOUNDRY COMPANY

☐ Send FREE colorful 20-page Booklet and name of dealer.
☐ I enclose $3.95 (check or m.o.) for DeWalt Woodworking Manual.
Name_____
Address_____
City_____ Zone____ State____



The Vauxhall Victor

[*Continued from page* 94]

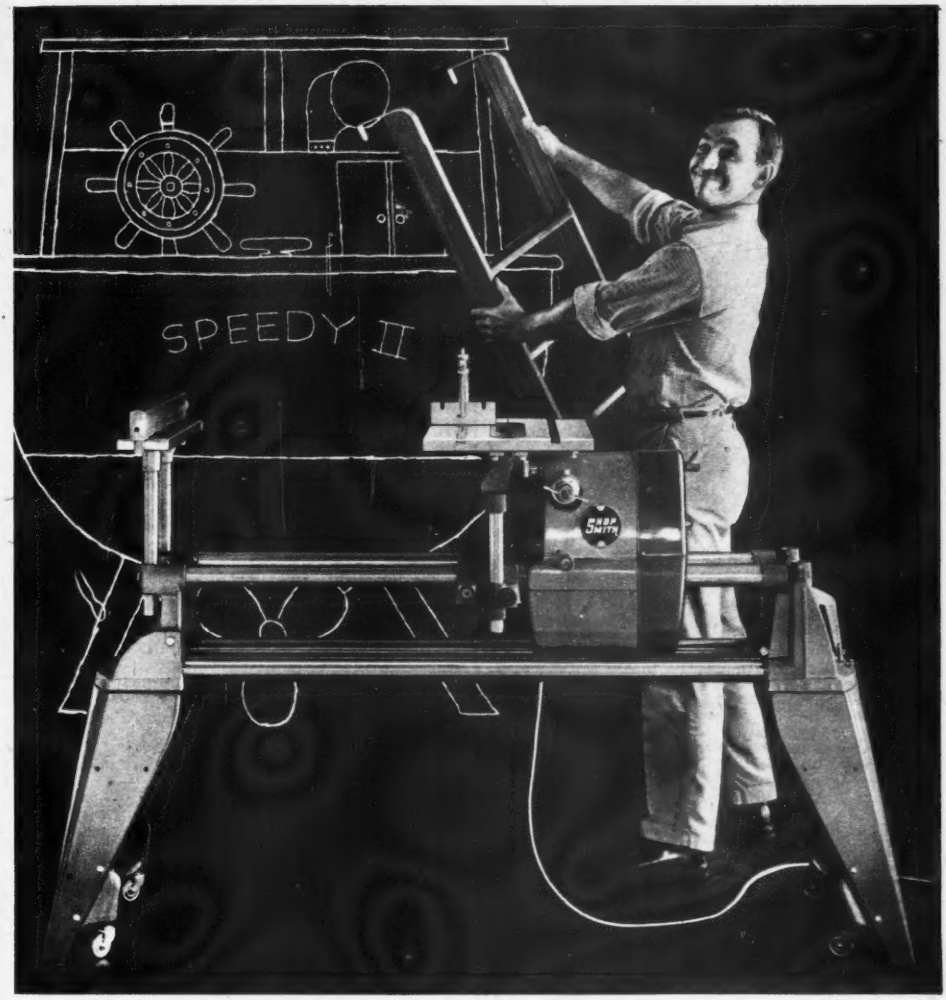
Resale Value, lost its title to the second-hand VW and you have a social phenomenon of epic proportions.

Though I have not attended any GM policy meetings, I believe the decision was made to fight fire with fire. Perhaps at some top-brass meeting some guy said, "We have the Vauxhall in England, the Opel in Germany and we can reach down to Australia, if necessary, where we control the Holden. These are all small cars. With the proper push we'll soon have Heinz Nordhoff (VW boss—Ed.) and his mechanical beetles running for the storm cellars." This may not be exactly how it took place but I figure it's pretty close. Anyway, Pontiac will handle the Vauxhall, Buick the Opel, and if Olds, Caddy or Chevy shout loud enough, they may send some of the Down Under Holdens up here for an additional crack at the late Mr. Hitler's dream car. Ford already has an array of their own-made English imports on the American market but to date they haven't been bright enough to give them to Ford, Lincoln and Mercury dealers to peddle. (Who knows, maybe some Oklahoma oil baron buying a new Lincoln would tell the salesman, "And while you're making out the order, toss in a Consul for the kids to run around in.")

The Pontiac Vauxhall is a fine little sedan of quality which strangely enough has a smattering of GM looks, especially around the twin "flutes" on the hood. The seating capacity is smallish and a six-footplusser might suffer telephone boothitis on a long haul from coast to coast. But as this is a four-door wagon, the inmates of the rear seat will not have to strew buttons all over the floor whilst clambering in. It is powered by a four-cylinder OHV engine displacing 92 cubic inches. The engine develops 54.8 hp at 4200 rpm with a 7.8:1 compression ratio. It has a three-speed gearbox which would allow much better performance if it had four speeds, as the engine has loads of torque for so small a mill but the gearing combinations are not conducive to drag strip performance.

In other words, this car is no match in getaway for the Simca Aronde we recently tested, quite possibly due in part to the

[*Continued on page* 172]



It's amazing — the things you can build with SHOPSMITH!®

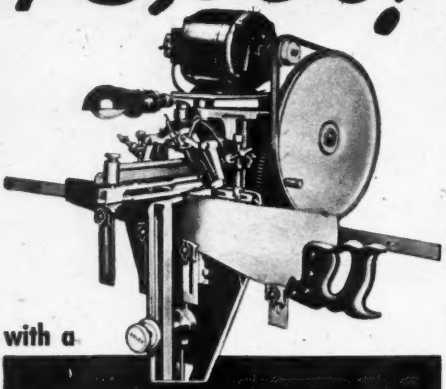
Maybe you won't begin by building a cabin cruiser—but you *could* with your SHOPSMITH! For boats, like most other projects, require a saw, drill press, sander, lathe and horizontal drill. Only SHOPSMITH gives you, in one magnificently engineered unit, all the tools you need to build *any* project from *start* to *finish*. Only SHOPSMITH is a complete power shop—no extra tools to buy. And unlike one-speed power tools, SHOPSMITH gives you exclusive Speed-Dial with correct, *safe* tool speeds for any woodworking operation. Visit your leading hardware or department store, lumber yard, or any Montgomery Ward; find out why over a quarter-million men now own SHOPSMITH. For two helpful free books on home workshops, write Dept. 301-MI, Magna Power Tool Corporation: Menlo Park, Calif., or Box 2808, Ft. Wayne, Ind. ® T. M. REG.

SHOP SMITH

MAGNA POWER TOOL CORPORATION

ONLY SHOPSMITH LETS YOU COMPLETE THE JOB!

Last Year's Profit $3,000!



with a

FOLEY *automatic* SAW FILER

"Last year's profit amounted to $3,000. Not so bad for a one-man outfit" — from Chas. C. Hough. James B. Williams wrote us—"I made $765 last year filing saws, and it sure comes in handy. I do this work in my spare time." Men in communities of all sizes make up to $3 or $5 an hour with the Foley Saw Filer working full or part time.

It's no trick to take care of the saw filing for your neighborhood hardware or lumber dealer — plus looking after the saws for farmers, townspeople, manual training departments and factories. The Foley files all hand saws, also band and cross-cut circular saws. It's a repeat cash business, no canvassing, no eyestrain and no experience needed.

FREE BOOK

Shows How to Start

"MONEY MAKING FACTS" shows just how you can start at home in your spare time working in your basement or garage. It's an immediate cash business that can develop into a full-time repair shop. Send coupon today—no salesman will call.

Send for **FREE BOOK**

FOLEY MFG. CO., 1015-7 Foley Bldg.
Minneapolis 18, Minn.

Send me free book "MONEY MAKING FACTS"

Name .....

Address .....

Most Out Of Your Garage

[*Continued from page* 151]

garage should be one. The area between the ceiling joists is ready-made for insulation and you don't have to be particular about the type of insulating material you use. If possible, go to a building materials auction one day and pick up your insulation for a fraction of the price it would cost you at a retailers.

Keep It Clean

Don't blame the builder if your garage is a clutter box. Sure it's too small, but remember it was built to house one or more cars—period. Too many of us think of the floor as the only storage space available, but what about the walls, especially the rear wall?

When guests drove down one weekend in their new long, low sedan I had to yank out a too-deep workbench in the rear of my garage to make room for their car. What seemed like a real loss at the time turned out to be a blessing in disguise because it resulted in my buying double-width steel shelving. These six-shelf units reach from floor to ceiling and have contributed more to cleaning up my garage than anything else. Now there's a place for everything and everything's in its place. No more stumbling over boxes of tools and equipment.

Yes, bigger and better garages are on the way that will more realistically meet the problems of today's car owners. In fact, why not be the first in your neighborhood to have one.—*Frederick C. Russell*

LIGHT SWITCH within arm's reach of driver guarantees his safe exit from lighted garage.

Then see your

DOCTOR OF MOTORS

If the years and the miles have taken the power and punch out of your engine's horsepower—your Doctor of Motors knows how to make your engine feel *all* there—alert, responsive and fun to command!

Skilled mechanics everywhere restore that New Car Feel by installing Perfect Circle 2-in-1 Chrome piston rings. Here's why: Perfect Circles are plated with thick, solid chrome that resists wear—more than doubles the life of cylinders, pistons and rings, and assures thousands of extra miles of driving pleasure and satisfaction.

For long life and responsive power with positive oil control, ask your mechanic to install Perfect Circle 2-in-1 Chrome piston rings in your engine. Perfect Circle Corporation, Hagerstown, Indiana; The Perfect Circle Co., Ltd., 888 Don Mills Road, Don Mills, Ontario, Canada.

You'll be surprised how quickly and economically your dependable Doctor of Motors can bring back a New Car Feel to your car.

PERFECT CIRCLE

2-IN-1 CHROME PISTON RINGS *restore that New Car Feel*

[*Continued from page* 103]

reasons: You are right, I have been touting air conditioning for several years—but the boys in Michigan overdid themselves this year in two ways. First, some of the 1957 factory-equipped air conditioning units have *less* capacity than they did in '55 or '56. Many have now been located under the hood where the engine heat digs way deep into the efficiency of the unit. Tie this up with the absolutely assinine Large Glass Area Race and you end up with a large *nothing* for your 500 bucks. You are correct: air conditioning is getting a bad kick in the teeth this year by the very guys who developed it.

● *I read recently that we now have a 50-cent dollar. If that's so, why can't we buy a Chevy, Ford or Plymouth today for less than $1,200 delivered? You used to be able to get them for $600. I say we have a 25-cent dollar in the automobile world. What do you say?*

Bill Wharton
Seattle, Wash.

Who am I to argue? I remember just before World War II you could buy a brand-new Cadillac in New York, full price, for less than $2,000. But by the same token, in those days you had to get up at least $5,000 more for a Rolls-Royce than you do today. This must mean that England has a 40-ounce pound.

● *Now that Ed Sullivan no longer has the Lincoln account, do you have enough guts to predict how this will affect Lincoln sales for 1958?*

G. Herbert
St. Louis, Mo.

If you're looking for a crazy guy, I'm your boy. I personally predict that not having Ed Sullivan plug them every Sunday night will cause Lincoln sales to drop plenty—perhaps 15-20 per cent.

● *I picked up my brand-new car one evening recently in New York and drove it home to Bridgeport. The next morning when I looked at the speedometer it read 99,891 miles. The dealer had no explanation. Have you?*

C. O. Carlsen
Bridgeport, Conn.

Are you sure you took the right road to Bridgeport?

● *Just a word of thanks for writing the Car Owner's Handbook. It's just what the doctor ordered, written so that even I, a "Sunday afternoon try-to-be-mechanic," can understand it. So again, thanks. I would appreciate knowing the name of the chap who does your lubrication jobs in New York City.*

Gene Mannucci
Middle Village, N. Y.

Thanks for the plug on the book, Gene. About the grease job, the answer is a little unhappy. For years, John B. Mezey ran the finest service shop in the City of New York. His was the shop that charged me $10 for a full grease job—which I said in my book was well worth it. I received hundreds of letters from readers requesting the address of this emporium. John had told me that he was no longer looking for outside work but that he would be glad to accommodate "any close friends" of mine. All readers are my closest friends so I published the name and address of John's place. He was flooded with work he didn't want and no shop in the world was large enough to handle. I'd known John for years and this was a gag he enjoyed as much as I. Unfortunately, my old friend succumbed to a heart attack early in May—and I only wish this report was a gag. He was most respected among professionals in the industry and I'll certainly miss him next Speed Week—an event he always attended.

Just two days before John B. Mezey's death I lost another old friend, Jerry Duryea, son of the builder of the first American automobile, the Duryea. Many years ago when I was a young sprout, Jerry and I played water polo on the same NYAC team.

● *How about the Bridgehampton Race Course—are they going to build it?*

George Gale
Miami, Fla.

I hope by the time you read this it'll be paved and ready to go. I recently drove over the entire course which has been completely graded and rolled, ready for the paving. I trust there won't be any hitches as this is without a doubt the finest race course I have ever seen, this side of LeMans. Believe it or not, the location, which affords views of both Long Island Sound and the ocean during each lap (from perhaps the highest elevation on L.I.), makes LeMans look pretty sad by comparison from a scenic standpoint. It should be a great course.

● *What's the quickest way of getting tar spots off my light colored body?*

P. Q.
New Orleans, La.

Have you tried Fairy Soap and a stiff bath brush.

—Tom McCahill

MoPar "Dated" Dry-Charge Batteries: their life begins the day you buy

Get a *factory-fresh* MoPar Dry-Charge Battery . . . your warranted battery life begins the day you buy! MoPar batteries assure maximum power, reserve capacity, long life, compact dependability.

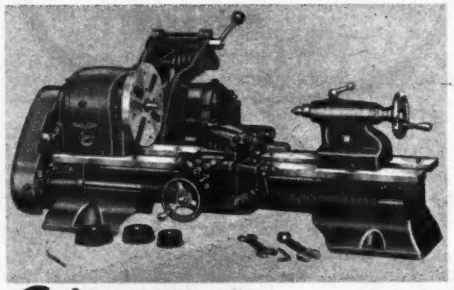
RIGHT! New improved MoPar Anti-Freeze comes to you with rust inhibitors, lubricants and other ingredients permanently blended to give you complete winter protection. Both All-Weather Permanent type and Methanol type exceed normal anti-freeze specifications. An official authentic Chrysler Corporation product, made to highest quality standards. Buy MoPar Anti-Freeze from your Plymouth, Dodge, De Soto, Chrysler or Imperial dealer, or leading repair shops everywhere. Get ready for winter now!

MoPar
PLYMOUTH · DODGE · DE SOTO · CHRYSLER · IMPERIAL
PARTS & ACCESSORIES

MOPAR DIVISION — CHRYSLER MOTORS CORPORATION
DETROIT 31, MICHIGAN

LOW COST LATHE

excels in Accuracy, Efficiency, Versatility!



Atlas 6" (SCREW-CUTTING) LATHE

Timken Bearing Equipped for Precision Jobs!

For a small investment you can own a back-geared, screw-cutting lathe that, within its capacity, will do everything a high-priced lathe will do, and do it fast, efficiently, and accurately. Nothing like it at its price for development work, home repairs, service shops, garages. Timken tapered roller bearings, precision-ground bed, 16 spindle speeds, complete V-belt drive, power longitudinal feeds. An exceptional value.

KING OF ALL TOOLS

Handles a greater variety of machining jobs than any other tool. Wide assortment of attachments for milling, drilling, boring, armature turning, mica undercutting, etc.

PRICES START AT $167.50

(also available in 10" size)

WRITE FOR LITERATURE

Atlas Press Company

10-22 N. Pitcher St., Kalamazoo, Michigan

QUALITY MACHINE TOOLS SINCE 1911

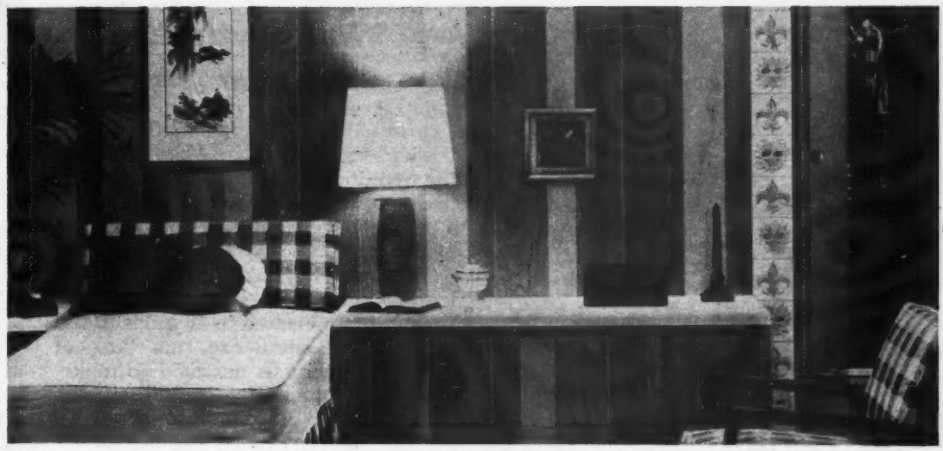
The Vauxhall Victor

[*Continued from page* 166]

gearbox set-up. (The Simca had a four-speed box.) The ride, however, is real big car stuff and if the size suits you, the Vauxhall would prove just as comfortable a car for a trip to Florida as any normal person could wish for, provided his luggage requirements weren't excessive. Actually, the trunk is large by small foreign car standards and the glove compartment is deep enough to shove your arm in up to the elbow, though the aperture is small (meaning, put your champagne bottles in end-wise).

Unlike many manually-controlled transmissions, this job has synchromesh on all three speeds, which means you won't wake the neighborhood every time you drop it into Low when slowing for a light. I found the steering crisp and accurate and the cornering ability good, though not sensational. While testing this car on a turnpike in a heavy crosswind I noticed it had a lot less wander than most small cars of its type. The plastic upholstery that smells like leather is easy to slide onto and easy to wash. The radio on this car was excellent. However, the hood (crocodile-type) doesn't open up far enough for easy accessibility unless you're a part-time contortionist and acrobat. The car has excellent brakes, as good as we've found in many a moon. There was no trace of fade on normal mountain stops until this had been carried far beyond normal operation. The hand brake control is a real pig and you'll hate it before you've owned the car very long—it's awkward to reach and hard to release. The general finish inside and out is real top quality of the GM type. Styling is interesting but the "dual" exhaust outlets, one a closed-up fake, smack of connivery.

In summing up, this is an interesting car that'll sell for just a little bit more than the German Volkswagen. I believe it may find a lot of success with the borderline American buyer who to date hasn't had quite enough guts to buy a foreign car, though he has always secretly wanted one. With service at your nearest Pontiac dealer, things should be quite different. In a nutshell—a Vauxhall, GM's first blast at the solid German line of Volkswagens, will prove a small-car competitor to watch •



BRIGHTEN ANY ROOM with luxurious Weldwood Paneling. This cheerful birch V-plank paneling gives a random-plank effect, yet comes in 4' x 8' sheets that are prefinished to save you hours of labor . . . and costs only $65 for a full 12' x 8' wall.

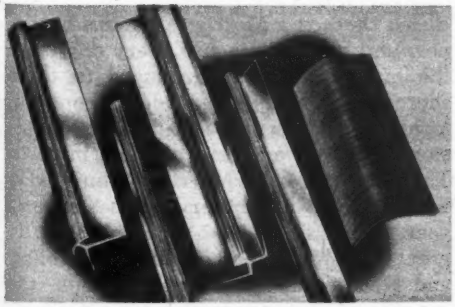
Make an old room new again with easy-to-install Weldwood paneling

INSTALL PANELS with nails concealed in V-grooves, or with Weldwood Contact Cement, on furring strips over studs, or over old walls. Bonds permanently, on contact, without clamps.

You can enrich a room with wood paneling easily and less expensively than you may think.

Weldwood Prefinished Paneling comes in a handsome variety of woods and finishes, all ready to install. Each panel is factory sanded, waxed, and rubbed like fine furniture to bring out the true wood beauty and protect its surface. Or, you may buy Weldwood Paneling unfinished at lower cost.

Weldwood Paneling's beauty grows as time goes on . . . and with hardly any care. It's guaranteed for the life of your home! See Weldwood Paneling at your lumber dealer's, or at any of our 87 offices.



EMPHASIZE JOINTS with Weldwood Veneer-Faced Aluminum Moldings to match panel wood. Also available: Weldwood Hardwood Trim, in a variety of woods and styles.

Weldwood®
PANELING

A Product of United States Plywood Corporation

Weldwood Glues—Flexible Wood-Trim®—Firzite®—Satinlac®

United States Plywood Corporation
Box 61, New York 46, N. Y. MI10-57

☐ Send me the name of my nearest Weldwood dealer.

☐ Please send me a copy of the full-color, 20-page decorating book, "Beautify Your Home with Weldwood Paneling." I enclose 10¢.

NAME.....

STREET.....

CITY.....STATE.....

better engine performance*

starts with a

"full power"

WILLARD BATTERY

*Faster starting, with a Willard Battery, saves wear on valves, rings and other vital engine parts . . . cuts gasoline and maintenance costs, too! For *extra* dependability, insist on a *full-power* Willard!

The Morris 1000

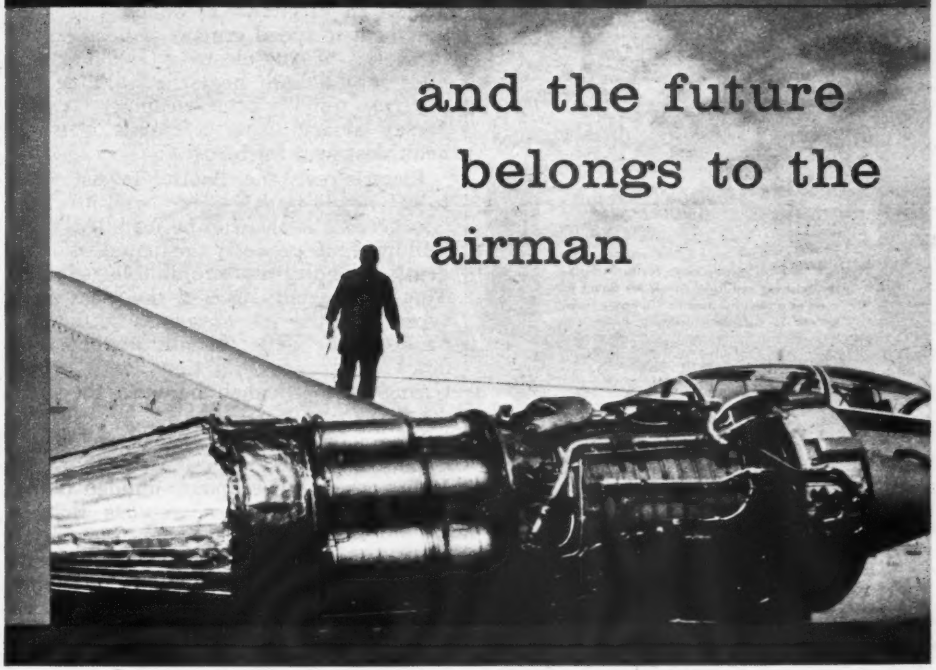
[*Continued from page* 98]

qualities are tops and the brakes are fine. The Morris has unique features, such as the horn button that works by pushing on the turn indicator arm. It has a convenient package shelf under the dashboard (where a package shelf belongs—not behind your head!) and *two* glove compartments.

The upholstery seems to be of genuine leather made from contented cows. Fuel consumption is close to 40 miles to the gallon but the small-size fuel tank of 6.5 gallons capacity is destined to make you The Most Hated Guy around any gas station. Picture the happy face on Free Splash Murphy, doing hot holiday traffic duty in his service station, when you tell him to "top it up" and he pumps in one and six-tenths gallons of regular. This miniscule gas tank was a complaint I had about the Morris years ago and I still have it. There isn't a car made in America today (and I include Imperials, Cadillacs and Lincolns) that can't go a great deal further on one tankful than a Morris, even if it does get 40 miles to a gallon. Fuel economy doesn't always mean dollars and cents—it can also mean time wasted. With a 15-gallon tank, this job could reach Detroit from New York without a fuel stop and would get more than halfway there with a ten-gallon supply. This 6.5-gallon pocketful would only get you mad.

In summing up, these cars have more features than an album of John Barrymore photos and with their little hearts of gold (tarnished in one or two spots) are good import buys. With reasonable care, if you should buy one as a second car or as an only car, it will last for years. In Daytona Beach there is a Morris that looks brand-new and has been in use every day since the make was first introduced to these shores many years ago. Oddly enough, it looks just as modern as this new '58 version, which is a nicety of most imports. The chances are the Morris you buy today will look just like other Morrises several years from now. Tie up nice looks, a truly great paint job, ease of handling, reliability and reasonable performance—plus the lowest-priced convertible sold in America—and you have Something Of Value as Bob Ruark might say. •

The new age of space is here...



You have read about the early Age of Flight...grown up in the Jet Air Age. Now, as a young man, you stand on the threshold of a new age in which man will conquer outer space. It will be the age of trained technicians—those who have backgrounds in rocketry, jet propulsion, electronics, mechanics and allied fields. And nowhere else is such training so available or so complete today as in the U.S. Air Force. Consider this fact as you plan your future. By joining the Air Force, you will, of course, meet your military obligation. But much more important, you will prepare yourself for unlimited opportunities in the new Age of Space. See your local Air Force Recruiter today—or mail the coupon.

You go places faster in the

U.S. AIR FORCE

PASTE COUPON ON POSTCARD AND MAIL TO:
Airman Information, Dept. MI-1321
Box 7608, Washington 4, D. C.

Please send me more information on my opportunities in the U.S. Air Force. I am between the ages of 17-34 and reside in U.S.A. or possessions.

NAME_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

AMERICA'S NEWEST!
Radar-Lights
BY BURGESS
Make Light of the Dark!

Radar-Lite
$12.40 WITH BATTERY
Play safe with Radar-Lite — its 40,000 candlepower beam shines for half a mile, the flashing red light warns far down the road or across the water. No home, camp or car is complete without Radar-Lite.

Radar-Lamp
$8.95-WITH BATTERY
This all-new electric lamp obsoletes flame-type lanterns—puts bright, safe light where you are. Will illuminate a room or tent. The best and safest all-purpose indoor-outdoor light ever made. Handsomely styled. In Chrome or Copper.

$6.95 WITH BATTERY
New Radar BEARCAT
America's newest focusing lantern. Gives brilliant half-mile spot or wide bright flood of light with a twist of the wrist. Rugged and compact, it is a "bearcat" for the boat, car, home, cabin or farm. Attractive red finish. Popularly priced.

POWERFUL BATTERY
$2.45 EACH.
This is the powerful heart of the Radar-Line. Sealed in steel. Leak-proof, weatherproof. It attaches in seconds to all models, gives up to four times the service of the old type lantern batteries.

At Good Stores Everywhere
BURGESS BATTERY COMPANY
FREEPORT, ILLINOIS

Heat With Electricity

[*Continued from page* 102]

among other things, it eliminates the need of employing several stationary engineers. In Virginia a greenhouse uses the new heat to speed growth of flowers, and in Texas a rug-cleaning establishment finds it will both heat the building and dry rugs quickly after cleaning. A New Jersey aviary using it claims it is the healthiest heat for birds.

Electric resistance heating is best suited to a newly-built, tight, well-insulated house. But it also can be installed in old buildings, if properly insulated, without great difficulty or prohibitive expense. This is especially true of the glass panel type. All the job entails is setting the panels in the walls (usually under a window) and connecting them with proper wiring cables pushed between the studding.

Where building regulations permit, the system lends itself to do-it-yourself installations. One economy-minded house-owner whom I know, reports that he bought 12 glass panels, seven thermostats and necessary wiring equipment, and with a wiring plan supplied by the manufacturer, put in the whole system except for final connecting with the meter box. The entire job in a 1,500-square-foot, eight-room house, he reports, cost him $800.

Champions of electric resistance heating maintain that it doesn't have to compete with traditional heating systems on a cost basis. In home heating, they point out, every improvement, from the open fireplace on up through pot belly stoves and various kinds of central heating, has always cost more. But because it brought comfort and convenience the costlier innovation never failed to succeed.

Paradoxically, the success of this electric heat will actually benefit one of its competitors: coal. The average U. S. home today uses 1.4 tons of coal per year "by wire"—that is, about 3,100 kilowatt hours of electricity produced in coal-burning generator plants. But electric heating generally raises the amount of current used five times or more, with a corresponding increase in coal consumption at the generating end. This helps explain why the United Mine Workers Union heats its

[*Continued on page* 178]

What's Winter? In Texas it means "northers." In Owl's Head, N. Y., the thermometer fluid dives clear into the bulb. Jack Frost moves fast and far.

Better get set! Have your Texaco Dealer check radiator, spark plugs, distributor points, battery, and level of your transmission and brake fluids . . . change your oil . . . in short, see to it that you're really all set for safer, surer, cold weather driving.

Snow tires or chains save skids and tow car trips. When it's slippery, "feel" your brakes, don't jam them on. And carry a bucket or bag of sand and maybe a shovel.

Guaranteed anti-freeze protection!

Your cooling system is checked—and filled with the right amount of Texaco PT. Then you get a *written guarantee* that protection will be maintained all winter long! And this guarantee will be honored by Texaco Dealers in all 48 states. Texaco PT won't boil away even in warm spells; it won't foam and it protects against rust and corrosion. If you value your car and want to beat winter . . . put in the *guaranteed* anti-freeze . . . Texaco PT. At your Texaco Dealer, *the best friend your car has ever had.*

THE TEXAS COMPANY

TEXACO

TEXACO DEALERS IN ALL 48 STATES

Texaco Products are also distributed in Canada, Latin America, and Africa

CASITE gives your car

NEW PEP NEW POWER

Frees sticky rings and valves

Get increased pick-up and improved engine performance! Casite—the "tune-up in a can"—through the air intake or added to gasoline, restores split-second valve timing and full compression.

Prevents hydraulic lifter trouble

Casite keeps valve lifters clean and free-working. Just put a pint in the crankcase every 1,000 miles, and with every oil change.

Assures safe, smooth break-in

New and rebuilt engines wear-in smoothly and safely with Casite in the oil. Penetrates tight spots—eliminates overheating, scoring.

Cuts start-up wear

Speeds oil flow—protects closely-fitted parts during warm-up periods. Almost doubles engine life.

Gets rid of sludge and gum

Casite removes gum and goo—KEEPS the engine clean—increases power, improves performance, saves gas and repairs, too.

Results guaranteed, or double-your-money-back!

Get Casite at your service station, garage or accessory store.

HASTINGS MFG. CO., HASTINGS, MICH.
Piston Rings, Oil Filters, Spark Plugs

Heat With Electricity

[*Continued from page* 176]

newest personnel housing units by electricity and vigorously supports the adoption of the system throughout the country.

Predictions are that by 1960 there will probably be over a million electrically heated homes; by 1966 over three million. By 1970, it is estimated, electric heating—almost all of the resistance type—will be found in 40 per cent of all new houses built and will be consuming annually more than 70 *billion* kilowatt hours of electricity. •

Atomic Birth Certificate

[*Continued from page* 61]

to protect yourself and your family?

Here is a program recommended for the individual by scientists and doctors who have been working to solve the frightening problems of radiation:

1. Start your own Atomic Birth Certificate and insist your doctor and dentist make careful entries each time you receive X-ray or fluoroscopic treatment.
2. Write your state health department to urge they keep abreast of the latest developments in the field of radiation—including the banning of fluoroscopic machines in shoe stores and the unnecessary use of spinal X-rays.
3. Refuse to submit yourself or members of your family to any medically *unnecessary* X-rays, including dental, bone and prenatal examinations.
4. Write your Congressmen urging careful consideration of the Porter and Neuberger bills now pending.
5. Refuse to accept the calm assurances of some uninformed "specialists" that there is no danger in low doses of ionizing radiation. Remember, radiation is cumulative. You can never get rid of it. *There is no "safe" dose of radiation.*

By following this program you may be able to avoid the pain and horror of radiation sickness and death. The problem is here. It exists *now*. By meeting it calmly, intelligently and without panic, you can learn to exist in the Atomic Age.

To shrug off the dangers we know exist—and those perils we have not yet discovered—is to surrender to what may some day be called The Great Plague of the 20th Century. •

Here's the thriftiest professional-quality chain saw you can own—the MAC 35 by McCulloch—the ideal small gasoline-powered saw for sportsmen, cabin owners, farmers, tree surgeons and many others.

LOOK AT THESE FEATURES...

- weather-proof ignition for dependable performance in all climates
- exclusive aircraft-type carburetor for easy cutting in all positions
- cuts within one inch of ground
- automatic clutch for added safety and cutting ease
- automatic rewind starter for quick-as-a-wink starting
- extremely light weight—just 20 lb

LOOK AT THIS PRICE... JUST... $165 f.o.b. factory

Send for new free booklet "How to Make Money with a Chain Saw." Includes many labor-saving and profit ideas. Write to McCulloch Motors Corp., 6127 W. Century Blvd., Los Angeles 45, Calif.

150 FREE SAWS! You can win a brand new professional-quality Mac 35 chain saw absolutely free. Nothing to buy—just visit your McCulloch dealer for an entry blank to the 1957 SAW-DRAW. (Contest limited to areas where permitted by law.)

McCULLOCH

Divisions: *Scott-Atwater Mfg. Co., Minneapolis, Minn.*
McCulloch Co. of Canada, Ltd., Toronto, Ont.

5-7040-B

for fast, accurate boring

Greenlee 22

SOLID-CENTER AUGER BITS

Here's *assured* quality. When you put a GREENLEE 22 Solid-Center Auger Bit to work, you can be certain that results will be good . . . holes accurate and smooth . . . for all GREENLEE 22 Bits are made with close attention to every detail. Cutting edges are sharp and true . . . screw points are accurate . . . squares are perfect . . . shanks never vary. Top-quality materials plus careful heat treating mean easy, smooth boring and long life. "Plastic Sealed" to reach you factory-sharp. Buy GREENLEE 22 Solid Center Auger Bits singly or in sets . . . at hardware stores and building supply dealers throughout the country.

TOOLS FOR CRAFTSMEN
GREENLEE

HANDY WOODWORKING CALCULATOR . . . ONLY 25c

Converts linear to board feet, gives nail specifications, tool-sharpening tips. Compares woods, gives bit sizes for screws, concrete mixes, painting information, etc. Simple to read, 6" circular shape. Send 25c (no stamps, please).

GREENLEE TOOL CO.
2350 Columbia Ave.
Rockford, Illinois

NOW CUT HOLES & DISCS IN SECONDS!

"ARCO HOLE-SAW"
with New Automatic "SLUG-EJECTOR"
Fits any Electric Drill, Lathe, Drill Press, Motor

Exclusive "Slug-Ejector" pops out discs immediately—therefore works 3-times faster than other hole-saws selling for twice as much. 7 shatterproof blades easily exchanged to cut 1", 1⅛", 1½", 1¾", 2", 2¼" & 2½" holes thru any ¾" stock. Safety-lock screw prevents blades from "jumping out." Incl. ¼" drill bit. No. 650 ..... **$7.95**

No. 675 "ARCO HOLE-SAW SET"—2 complete Tool Heads with 14 blades (7 listed under No. 650 above plus ⅞", 1⅛", 1⅜", 1⅝", 1⅞", 2⅛" & 2⅜" sizes) **$14.95**

Order Today on our UNCONDITIONAL 10-DAY MONEY BACK GUARANTEE. Send check, M.O. (ppd.) C.O.D. plus post.

ARROW METAL PRODUCTS CO.
Dept. MI-10, 421 WEST 203 STREET, NEW YORK 34, N. Y.

NEW 1958 CATALOG **BOAT KITS** 200 MODELS—SAVE 2/3

EASY TO BUILD—Designed for the amateur. Over 200 Models. Prams to Cruisers, 8 to 21 ft. Formed hulls Semi and Custom finished. Save 50%...Now NEW Sea Ray Molded FIBERGLAS BOAT KITS. Truly professional results. NO upkeep. SAVE 2/3 assembly time. 12 to 16 ft. Utilities and Runabouts. SEND 35c for 64 page Boat Kit & 24 page Sea Ray Catalogs. SEND $1.00 for both plus "Boating Handbook". Dealers inquire for franchise.

BOAT PLANS & PATTERNS Frame-Pac Kits

World's largest selection: over 200 plans, full-size patterns. frame-pac kits! Designed strictly for amateurs! All types: prams, kayaks, racers, runabouts, catamarans, houseboats, cruisers - inboard-outboard 6-40' wood-plywood-steel!

Send 35c for PLAN CATALOG
Catalog PLUS "Boatbuilding Handbook" $1.00

WRITE NOW! CUSTOM CRAFT, BUFFALO 7N, N. Y.

GRAVELY with Starter makes Snow Removal A SNAP

● Save your heart! . . . Powerful Gravely Tractor with push-button starter, 48-inch Snowplow attachment takes all the work from snow removal!

23 DIFFERENT TOOLS

● 23 attachments to save your time and work all year long. *Easy Pay Plan . . . only 20% down, 18 months on balance.*

Write today for FREE 24-page "Power vs Drudgery" Booklet.

GRAVELY TRACTORS, INC.
BOX 1023 DUNBAR, W. VA.

FIELD-TESTED FOR 34 YEARS

AUTO-LITE POWER TIP "fires up" winners in 1957 Mobilgas Economy Run

IMPERIAL CROWN . . . Winner in both High Price Class and Sweepstakes

CHRYSLER SARATOGA V-8 . . . Winner in Upper-Medium Price Class

DE SOTO FIREDOME V-8 . . . 2nd Place in Upper-Medium Price Class

DODGE CORONET 500 V-8 . . . Winner in Low-Medium Price Class

PLYMOUTH BELVEDERE V-8 . . . Winner in Low Price Class

Victory sweep by Chrysler-built cars proves that Auto-Lite Spark Plugs with POWER TIP deliver top performance and economy at all speeds.

The 1957 Mobilgas Economy Run gives dramatic evidence of Power Tip's ability to give top performance and economy in all kinds of driving . . . at all speeds. For 1568 miles, in the mountains, on the highway, and in city traffic, Power Tip sparked the winners to victory. Here's how Auto-Lite Spark Plugs with Power Tip operate . . .

At *low speeds*, the projecting spark plug tip . . . the Power Tip . . . gets hot fast, operates hotter to burn away fouling deposits which impair engine performance in city driving. At *high speeds*, the Power Tip is actually cooled by the richer air-fuel mixture to check costly and dangerous high-speed pre-ignition caused by overheated spark plugs.

Power Tip, first spark plug ignition-engineered for today's engines and today's driving, is designed for overhead-valve V-8 engines and for most overhead-valve 6's in all these cars: Buick, Cadillac, Chevrolet, DeSoto, Chrysler, Dodge, Plymouth, Ford, Hudson, Imperial, Lincoln, Pontiac, Mercury, Oldsmobile, Studebaker, Nash, Packard, Rambler.

Mobilgas Economy Run, sponsored annually by Socony-Mobil, is rigidly supervised by the Sports Commission of the United States Auto Club.

The protruding tip makes the big difference!

AUTO-LITE® RESISTOR SPARK PLUG WITH POWER TIP

Auto-Lite makes a complete line of spark plugs, including Standard, Resistor, Small-Engine, Transport, Aircraft, and Diesel-Starting.

1 – LOOK FOR THE DFPA QUALITY TRADEMARK

When you see the letters DFPA on panel you *know* you're getting plywood quality-tested to meet rigid industry standards. DFPA trademarks attest quality, performance and value.

2 – CHOOSE THE RIGHT GRADE FOR EACH JOB

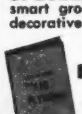
Exterior plywood for outdoor & marine use

PlyPanel® for paneling, most indoor uses

PlyScord® (unsanded economy panel) for sheathing, backing

Choose Exterior-type (waterproof glue) for outdoor and marine uses; Interior-type for inside jobs. Within each type are several *appearance* grades (panels with one good side, two good sides, etc.). See your lumber dealer. He'll help you choose the right grade, help with ideas and plans.

SPECIALTY PANELS include 1. *textured plywood* with smart grooved, striated or brushed surfaces for special decorative effects; 2. *overlaid plywood* (smooth, durable resin-fiber surfaces) for extra quality work.



FREE: Helpful booklets that show how to buy, use and finish plywood. Also, list of available homecraft plans. Write (USA only) Douglas Fir Plywood Assoc., Tacoma 2, Wash., Dept. 12.

Applying glue correctly is one of the most important steps in your woodworking project. Be sure parts to be glued are clean, dry and warm. Apply a thin film of Rogers glue to both surfaces; then clamp the joint to remove all air from the glued part. (This must be done for dovetails, tennons and dowels.) Allow enough drying time to permit adhesion to compensate for any shrinkage or expansion. Now you're sure of permanent strength. SPECIAL OFFER: A full-sized jar of Rogers glue; a set of easy project plans; a helpful "Rogers Book of Woodworking Shop Notes". Send 20c with your name and address to Rogers Glue, Gloucester, Mass. Ask for Rogers Glue at your local store.

Actual Tensile Strength: Over 3,885 lbs. per sq. inch. Good Coverage — Just a Little Does a Lot.

ROGERS
the strongest glue - lasts forever
GLOUCESTER MASS

132 PAGES
Many in full color
packed with rare, fancy & imported woods ... veneers, plywoods, patterns, tools, ornaments, hardware ... everything for the woodworker.

Get This NEW Catalog of WOOD & WOODWORKING EQUIPMENT

WORLD'S LARGEST SELECTION OF FINEST DOMESTIC AND IMPORTED WOODS . . . MOULDINGS, HARDWARE, TOOLS,—ALL AT LOW MONEY SAVING PRICES!

Your complete wood buying guide and project book. Craftsman is your best, most complete source of finest kiln-dried domestic and rare imported woods, beautiful wood inlays, colorful bandings, matched plywoods, embossed mouldings, carved ornaments, newest woodworking tools, "hard to find" cabinet hardware and fittings. . . more than 1,500 items! Packed with newest scroll saw patterns, project ideas & money making plans. Enclose 25c (refunded with first order) to help pay mailing, handling cost. Write now!

Craftsman Wood Service Co., Dept. C-10
2729 S. Mary Street - Chicago 8, Ill.

"THINGS TO MAKE ON TOOLS YOU OWN"

NEW DELTA hard bound book illustrates and clearly describes a wide selection of useful projects designed to be built on each of the basic tools you own—only $1.00. Send for FREE folder on complete Delta Library: Delta Power Tool Div., Rockwell Mfg. Co., 556K N. Lexington Ave., Pittsburgh 8, Pa.

CLEARANCE

$1 RIFLE SALE $1

Mentored Shooters! We have mixed surplus stock of 250 well-used European military rifles from World War II combatants. $12 to $15 value. While they last we will send you one of these serviceable rifles for $1 extra with purchase of each Lee Enfield Rifle or .45 Colt Automatic. This offer good for 30 days only!

LEE ENFIELDS $24.95

FOR DEER HUNTERS

The firepower and accuracy of a $100 rifle. Brass and outside Genuine. Good 20 rds. FREE ammo. Powerful .303 Cal. ammo available everywhere. GOOD AMMO SPECIAL: 100 rds. target, $7.50, 20 rds. softnose hunting $2.95.

FOR TARGET, RANGE SHOOTING

.45 U.S. ARMY COLT AUTO. $39.95

The official sidearm of the U.S. Army. A $74.50 value. These are rare surplus from these days. OUR AMMO SPECIAL: 50 rds. $3.(10).

TO OBTAIN HARD GUNS ONLY! Enclose signed statement "Am not alien, never convicted of crime of violence, am not indictment or fugitive, am 21 or over." Mass., Mo., Mich., N.Y., N. J., N. C., R. I., Omaha, New Orleans, require permits — enclose with order. TO ORDER send check, cash or M.O. Send ½ deposit on C.O.D.'s. Don't forget, add $1 for extra rifle. Shipped R.R. expr. F.O.B. Los Angeles patient. Calif. resid. order thru local dealers only. 10-day money-back guarantee. MECH. PERFECT

THE ELLNER COMPANY DEPT. 32

1300 MAPLE AVENUE, LOS ANGELES 15, CALIFORNIA

Get Your Limit Of Geese

[*Continued from page* 83]

species is. Stake them at 30, 40, 50 and 60 yards. This practice will save you a lot of money in wasted shells.

Great care must be exercised in placing decoys. Study feeding geese through binoculars or photograph them with a telephoto lens and enlarge the pictures to 8x10 inches. Then set your decoys *exactly* as real geese feed. A well set stool makes a difference in your daily bag of geese.

All you need know now is where to hunt. Shooting clubs, camps and hunting rights can cost a mint. There are farms in the western grain fields where hunters are encouraged to hunt the devastating geese, the inducements being low prices, nice rooms and good farm cooking—but you have to find them. State and federal game preserves where shooting is permitted exist along every flyway, of which there are four—Pacific, Central, Mississippi and Atlantic. Prices are rock bottom at these places and the shooting is often wonderful. Write to U. S. Fish and Wildlife Dept., Washington, D. C., for a list of these government-sponsored shooting tracts. •

Appliance Crooks

[*Continued from page* 91]

failure is lint and other junk wound around the shaft or the belt-driven brush; a simple cleaning can save you a sawbuck or two.

All the above advice goes for gadgets on which the guarantees have run out. Guarantees are tricky and should be read carefully before you buy. A tag that says only "This product is guaranteed for life" is worthless—because all good guarantees tell you exactly what is guaranteed and for exactly how long. Sometimes you'll read that a part is guaranteed and then if you have patience you'll read on to find the replacement will be free "f.o.b. factory." Meaning you pay a freight bill.

In this age appliances are making life easier for both Mummy and Daddy—but they ought to know the rules of the game. Here they are.

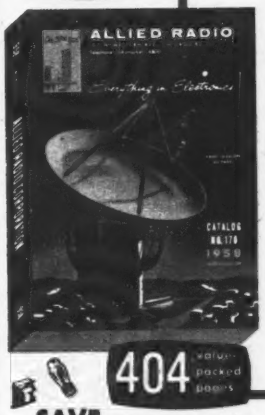
1. Know the gadgets you use. Read the booklets you get with them. Buy a copy of a good appliance repair manual (Fawcett Books No. 292 and No. 342). Take a home

[*Continued on page* 185]

see the amazing new
EASY-TO-BUILD
ELECTRONIC knight-kits
in ALLIED'S 1958
ELECTRONIC SUPPLY CATALOG

FREE!

BUILD YOUR OWN!
SAVE MONEY—HAVE FUN



HI-FI KITS

HOBBY KITS

INSTRUMENT KITS

HAM KITS

404 value-packed pages

SAVE on Everything in Electronics

WORLD'S LARGEST STOCKS

Everything for Experimenters, Builders, Amateurs, Servicemen, Engineers and Hi-Fi Hobbyists. Get more for your money in Hi-Fi systems and components; build-your-own KNIGHT-KITS; recorders and phono equipment; TV tubes, antennas, accessories; Amateur station equipment; test instruments; industrial electronic equipment—plus the world's largest stocks of parts, tubes, transistors, tools and books. Send today for your FREE 1958 ALLIED Catalog!

Everything in Electronics From One Reliable Source

our 37th year

EASY TERMS AVAILABLE

ALLIED RADIO

send for FREE Catalog

ALLIED RADIO CORP., Dept. 44-K7
100 N. Western Ave., Chicago 80, Ill.

☐ Rush FREE 1958 ALLIED 404-Page Catalog

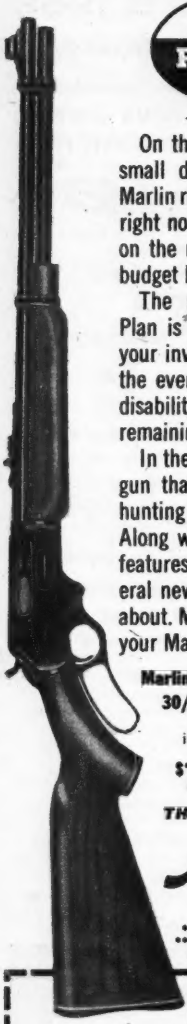
*Name*_____

*Address*_____

*City*_____ *Zone*____ *State*____

New rifle for you?

WHY WAIT ANY LONGER TO OWN THAT NEW GUN YOU WANT — WHEN YOU CAN HAVE IT NOW!



Marlin PAY-LATER PLAN

On the Marlin Pay-Later Plan, a small down-payment puts a new Marlin rifle or shotgun in your hands right now, and you pay for it easily on the monthly plan that fits your budget best.

The simple, convenient Marlin Plan is the only one that protects your investment with insurance. In the event of death or 90-day total disability, it automatically makes all remaining payments for you!

In the complete Marlin line is the gun that's perfect for the type of hunting you do—or would like to do. Along with their famous, exclusive features, today's Marlins offer several new ones you'll want to know about. Mail the coupon, and look up your Marlin dealer!

Marlin Model 336 Regular Carbine
30/30 .32 SP. .35 Rem.
Micro-Groove Rifling* improves accuracy by 20-25%
$76.95** Down-payment only **$7.95**

THE NAME FOR GAME

Marlin

FINE GUNS SINCE 1870

*Patent applied for.
**Slightly higher west of the Rockies. Subject to change without notice.

F-107

Marlin Firearms Co.
P.O. Box 995, New York 17, N. Y.

Please send me your catalog with photo illustrations and complete descriptions of all Marlin Guns. Also send me the new, illustrated 16 page "Marlin Target and Game Record Book", for my personal shooting records. I enclose 25¢ for handling.

Name.....

Address.....

City.....Zone.....State.....

KING MIDGET

ALL NEW. First model change in six years. New bodies, new chassis, new engine. Four wheel hydraulic brakes. Still World's Lowest Priced Car. Drive it for 75c per week. Rider Agents Wanted. Earn your own car. Get the facts. Send 25c for 32 page picture book with complete details, dealers price, etc.
MIDGET MOTORS CORPORATION, ATHENS 3, OHIO

WOODWORKERS!

Brand new 145th Anniversary Edition of Constantine's Manual for Craftsmen—126 pages, many in full color. Complete selection of rare and fancy imported and domestic woods, veneers, inlays, carvings, mouldings, hard-to-get items, hardware, upholstery supplies, plans, patterns and Do-It-Yourself Information. Send 25c (refunded on first order) for this big catalog and reference guide.

ALBERT CONSTANTINE & SON, INC.
2060-D Eastchester Rd., New York 61, N. Y.

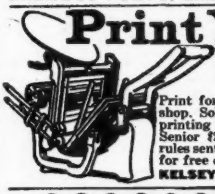
DRAINS cellars, cisterns, wash tubs; **IRRIGATES - CIRCULATES - SPRAYS**

Type P Pump has 1,001 uses. Up to 3,000 GPH; 450 GPH 80' high; or 1800 GPH from 25' well. Use ¼ to ¾ HP motor. Coupling included free. 1" inlet; ¾" outlet. Stainless shaft. Won't rust or clog! **$7.95**

Heavy Duty Ball-Bearing Pump. Up to 7,500 GPH. 1¼" inlet; 1" outlet. **$12.95**

Postpaid if cash with order. Also other sizes, types.
MONEY BACK GUARANTEE.
LABAWCO PUMPS, Belle Mead 30, N. J.

Lowest Price
WATER SYSTEM
Completely Automatic!
$49.95 less motor
With ½ HP motor, **$69.95**
Bronze Gear Pump 275 GPH. 20-40 lbs. ¾" fittings.
FREE CIRCULAR



Print Your Own

Cards, Stationery, Advertising, Circulars, labels, photo and movie titles, church work, tags, etc. Save money.
Own a printing business.
Print for Others. Good Profit. Have a home shop. Sold direct from factory, only. Raised printing like engraving, too. Junior press $15; Senior $29 up. We supply everything. Easy rules sent. Pays for itself in a short time. Write for free catalog of outfits and all details.
KELSEY PRESSES P-9 Meriden, Conn.

the finest
WOOD SCRAPERS
are
Red Devil Tools.

LUGER BOAT KITS EQUAL FACTORY-BUILT

FREE! BOAT KIT CATALOG

Save ½-⅔ of Cost
$39.25 Up, Freight Pd.

43 models: runabouts, cruisers, convertibles, fishing. When assembled and finished by amateurs they equal factory-built. Send for free catalog that also lists Trailers, Fiberglas, Hardware.

LUGER INDUSTRIES, INC. DEPT. D-10 3404 Lyndale S. Minneapolis 8, Minn.

"MINIATURE MACHINE SHOP

No Bigger Than A Typewriter, Outperforms Machines Many Times its Size!"

That's what Mechanix Illustrated says about UNIMAT in their 3 page feature story in the May issue. If you want a reprint of this story plus complete information about this amazing 10 in 1 combination precision tool write to:

AMERICAN EDELSTAAL, INC., UNIMAT DIV. Dept. 4107, 350 B'way., N. Y. 13

Appliance Crooks

[*Continued from page* 183]

repair course through your local school system or correspondence school.

2. Know the man you buy from. Buy from an authorized distributor.

3. Shun door-to-door repairmen and hole-in-the-wall operators unless you know the men well.

4. If you've been taken by a chiseling repairman, let the manufacturer of the product know right away. You're pretty certain to get satisfaction that way; it's recommended by the Better Business Bureau. Manufacturers don't want cheapskates giving their products a bad name.

So keep your eyes open when you head for the appliance service shop. You can't be taken if you refuse to go! •

Sells Meals On Wheels

[*Continued from page* 65]

commissary or by a local restaurant, is about 30 per cent. But coffee, the biggest single profit item, brings in a nickel on every dime cup.

The route man rents his rig from a route and truck owner like Eddie Burr—or signs over a percentage of his take. Sometimes Eddie gets a cut from the commissary where the route man buys his stock on the old cash-and-carry. The route man's percentage is 30-40 per cent of the gross.

"It's the only business I know of where a guy can get in on the ground floor for $300-$500—and maybe for nothing." The cryptic part of that statement can be cleared up easily. If you sell a few plants your catering service on an exclusive contract basis, the contract will look like 14-karat to any truck dealer and he may skip the down payment.

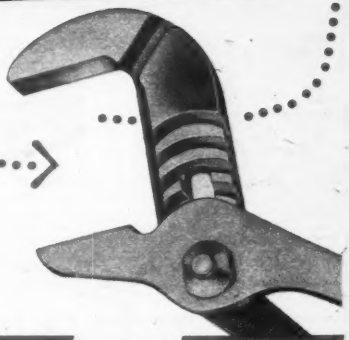
What's the future in mobile meals?

"Figure it yourself," says Eddie. "Fifteen million people in industry—and more every day. Figure each to spend at least 50 cents a day for mobile meals—if only to supplement their lunch pails—and there's a staggering $7,500,000 daily sales potential. That's $150,000,000 a month—nearly two billion dollars a year, and the potential has hardly been touched." •

When answering advertisements please mention
MECHANIX ILLUSTRATED

At Last!

A "TOOTHLESS" PLIER
THAT GRIPS
WITHOUT GOUGING



CHANNELLOCK®

No. 415 Smoothjaw PLIER

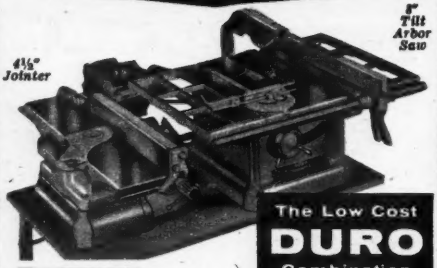
One of the handiest tools you'll ever use . . . the new "toothless", smoothjaw plier that grips without gouging. Just the ticket for gripping chrome-plated fittings, plastic, wood and other smooth surfaces. Especially handy on chrome sink-fixtures and other hard-to-handle jobs. Jaws quickly adjustable to full 2" opening. Get yourself a Channellock No. 415 Smoothjaw Plier. You'll find it's "the right tool" on scores of jobs in home and shop.

Ask Your Hardware Man For A
CHANNELLOCK Smoothjaw PLIER

MADE ONLY BY

CHAMPION DEARMENT TOOL CO.
MEADVILLE, PENNSYLVANIA

a PERFECT power tool set-up!



The Low Cost **DURO** Combination Saw-Jointer

Saw Jointer Only **$136.00**

Now, you can do 90% of your woodworking—accurately, easily, safely—including dadoing, cross cutting, ripping, tenoning, jointing, bevel and moulding cutting, rabbeting, sanding, etc. This versatile power tool has every important operating feature including exclusive "motor shift" which permits economical and convenient operation of both units from a single motor. Also has patented "quick change" motor mount for rapid switching of same motor to other power tools.

Write for FREE Power Tool Catalog

giving details on the BIG DURO line of drill presses, circular, band and scroll saws, jointers, sanders, lathes, etc. Write today.

DURO METAL PRODUCTS COMPANY
2698 N. Kildare Ave. Chicago 39, Illinois

NEW...

an accurate pocket tape rule that's really convenient to carry!

LUFKIN EXECUTIVE THINLINE

at hardware, lumber and tool dealers everywhere

1957 CATALOG **BOAT KITS** WOOD and FIBERGLAS

EASY TO BUILD - DESIGNED for professional results by the amateur. World's largest selection of top performance, latest design, prams, skiffs, racers, runabouts, sailing boats, cruisers. 8 to 20 ft. Mahogany decks, frames. FREE FREIGHT. SEND FOR FREE CATALOG

Boat Plans-Patterns-Frame Kits Includes fiberglas paints, accessories

Build over 50 modern boats from large scale plans, available with FULL-SIZE patterns, new PRE-FAB frame kits! All types: prams to cruisers, 6 to 25 ft. Best buy for Amateurs! SEND 10¢ for CATALOG.

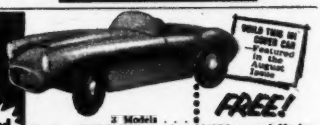
Craig Craft Tonawanda 13, N.Y.

THE ROUTER...
what it is and does

This 40-page book with 100 illustrations tells you. Write Stanley Electric Tools, 960 Myrtle St., New Britain, Conn., enclosing 50¢. Ask for ROUTER BOOK.

STANLEY

SPORT BODIES



$295 And $495

2 Models . . . Easily "BOLT-ON" to Any Chassis. Pre-Formed of Lifetime Fiberglass!

FREE! INFO or send 25c for photos and CAR-A-LOG!

ALMQUIST ENG. • Dept. MIS10 • MILFORD, PA.

ELECTRIC WELDER
AC or DC 110 Volts

The "Little Marvel" all-metal welder. 5-year written guarantee. Welds ⅛" metal or money back. Repairs tanks, tools, fenders, machine parts, etc. Complete with everything—rods, unit, eye shield, directions. $7.95 plus 50c postage. Flame torch accessory for soldering, cutting, brazing $3.95 complete with carbons, brass rods, flux. $2.00 deposit on C.O.D. ¼" 75 amp. Transformer Welder $24.95 F.O.B.

$7.95 Complete

ESSAY MFG. CO., Dept. 101, Quincy 69, Mass.

FULL SIZE MODEL KITS!

$5.95

The original kit.

Now 9 authentic models for den or game room. Wood with machine work done for you. Process for gun metal finish. Order direct or send 15c for interesting, revised catalog.

Army "A" kit
Civilian "B" kit 3.95
FBI .357 Magnum 4.00

For NEW illustrated catalog of 9 models....Send 15¢ to:

O'BRIEN GUNCRAFT (D) P.O. BOX 657 MADISON WIS.

ONLY $399 Freight included FREE FOLDER

NEW 18 ft. OFFSHORE CRUISER KIT

17 Models as low as $42.00 (freight included). Fiberglass boat covering kits, marine supplies, etc.

Tops and side curtains available

TAFT MARINE WOODCRAFT
Dept. MI-1057. 636 29th Ave. N. E. • Minneapolis 21, Minn.

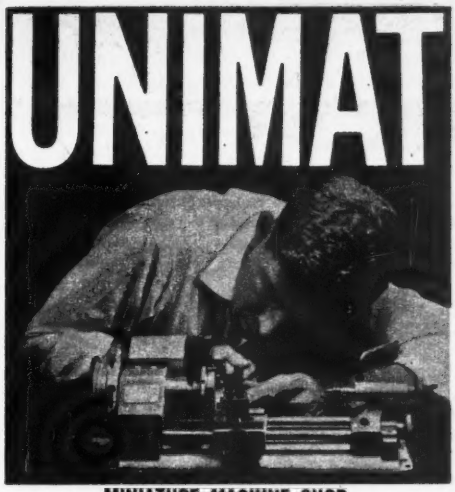
10" TILT/ARBOR SAW
BUILD-IT-YOURSELF from GIL-BILT KITS-PLANS

Sturdy wood, steel, and aluminum construction. NEW DEPARTURE ball bearings. Capacity and performance of floor saws selling for $150.00 and up. Plans, all metal parts in kit with 10" comb. blade $25.90, less blade $22.95 F.O.B. St. Louis. Detail PLANS-PATTERNS only $1.00 postpaid.

Build-it-yourself 12" and 18" Sandsaws, Belt Sander, Shaper. Simplified plans, build easily with hand tools only. Advertised and sold for 10 years, over 33,000 units in use. Money back guarantee. FREE CATALOG.

GILLIOM POWER TOOLS, Dept. 60-K, Lambert Field, St. Louis 21, Mo.

UNIMAT



MINIATURE MACHINE SHOP

"No bigger than a typewriter, outperforms machines many times its size." That's what Mechanix Illustrated says about UNIMAT in a 3 page feature story. UNIMAT is the precision tool that craftsmen, inventors and hobbyists dream about. You just can't beat it for machining small parts from steel, brass, aluminum, wood and plastic. You'll want a free reprint of this story plus complete information about this amazing 10 in 1 workshop. Write today to:

AMERICAN EDELSTAAL, INC. • UNIMAT DIVISION
Dept. 410 • 350 Broadway • New York 13, N. Y.

NEW! DISCOVERY!
SAVES PLUMBING BILLS
CLEANS INSTANTLY

CHICAGO—October 1st—Home Owners, Offices, Apartments, including Factories are constantly having trouble with clogged-up pipes which proves expensive in Costly Plumbing Bills—

But now—using Water Impact and Air Pressure, here is a new unit called the **Plumber's Flushing Gun**, which cleans all lines up to 100 ft. It will open any number of bends in pipes. Yet anyone can operate this new gun, which triggers easily.

TOILETS, URINALS, SINKS, and FLOOR DRAINS clogged with paper, grease, rags, sand, and other debris can be cleared with one or more shots from the gun, **saving the owner the Gun's price the first time it is used.** This new Flushing Gun may be used on any ½ to 6 inch waste pipe including Sink Drains, Floor Drains, Hot Water Pipes, Drinking Fountains, Septic Tanks, and Urinals. Obstructions melt away INSTANTLY when struck by the hammer like blow of this new unit.

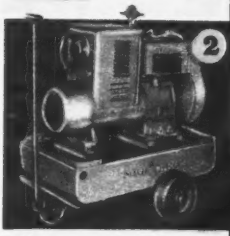
AMAZINGLY EFFECTIVE a hose attachment from the faucet (not shown here) leads water thru the Gun and pipe while at the same time air is released causing a Powerful Chain reaction.

This New Flushing Gun is offered on 30 Days Free Trial. BUT MOST IMPORTANT IS THIS—What is this Tool worth in **Costly Plumbing Bills Saved** in your Home or building? For your own good—Tear this Ad out now and write your name and address beside Ad for **FREE BOOKLET.** No agent will call—Obey that urge, mail now or write postcard. (Chicago Phone Kildare 5-1702) **MILLER SEWER TOOLS, DEPT. MI-10, 4642 N. CENTRAL AVE., CHICAGO 30, ILLINOIS.**

Build Your Own arc welder
SAVE $200 to $300! GET INTO big paying jobs
Easy to own...easy to use!

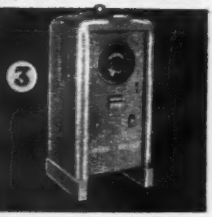
Highly profitable welding jobs can be yours—right away—with a lightweight, portable Build Your Own model. This home-built welder can give you performance comparable to that of a factory-built outfit. No other business offers the profit potential that welding does—for such a low initial investment!

1



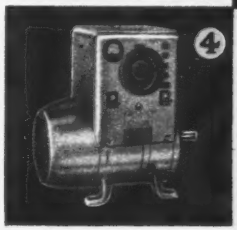
2

"Husky Boy" 200 amp.
Welds anywhere. Light, rugged, compact, and air cooled. Easily mounts to your trailer for traveling to the profitable emergency repair jobs.



3

AC Transformer Type
295 amp. AC Welder for operating on single phase 220 volt power. Just right for production and repair work in shops. A welder that quickly pays for itself out of extra earnings.



4

AC Welder, AC Power
200 amp. combination that you can connect to your own power source. Furnishes current for welding and power for running tools, lights, etc. With the aid of a good used auto engine, you can build your own portable combination welder and power unit. Mail coupon today for full details and free "Build Your Own" booklet. Gets you started in a highly profitable welding business.

Welding Lessons 200 pages fully illustrated, with charts and diagrams. Self-teaching. **$1.00**

HOBART BROTHERS CO., Box SM-107, Troy, O.
Phone FE 2-1223

HOBART BROTHERS CO., Box SM-107, Troy, Ohio

Without obligation, send complete information on:

- ☐ 1 BUILD YOUR OWN
- ☐ 2 "HUSKY BOY"
- ☐ 3 AC TRANSFORMER
- ☐ 4 AC WELDER, AC POWER
- ☐ Tell me about the Hobart Non Profit Welding School
- ☐ Send Welding Lessons Book. I enclose $1.00.

Name_____

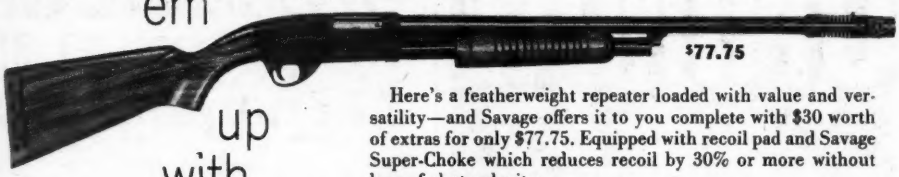
Address_____

City_____ State_____

line 'em up with a

Stevens 77-sc

with Savage Super-Choke and recoil pad



Here's a featherweight repeater loaded with value and versatility—and Savage offers it to you complete with $30 worth of extras for only $77.75. Equipped with recoil pad and Savage Super-Choke which reduces recoil by 30% or more without loss of shot velocity.

This is the pump-gun you'll use for *all* kinds of shooting—instant selection of any choke setting from full through cylinder. Has 6-shot, hammerless action with a safety fire control—trigger must be released and pulled for each shot.

Other outstanding features include: receiver and trigger guard gracefully streamlined into the full pistol grip, tapered extension beavertail slide handle grooved for firm grip, handsome walnut stock with fluted comb. In 12, 16 or 20 gauge.

Also MODEL 77—12, 16 or 20 ga. 26" barrel, improved cylinder choke; 28" barrel with modified or full choke; 30" barrel, full choke, 12 ga. only—$65.75.

There are Savage, Stevens and Fox shotguns and rifles for every shooter and every kind of shooting. *Write for free rifle or shotgun catalog. Savage Arms Corporation, Chicopee Falls 20A, Massachusetts.*

ALL PRICES SUBJECT TO CHANGE SLIGHTLY HIGHER IN CANADA

Savage TRADEMARK

SAVAGE · STEVENS · FOX FIREARMS

WELD IT YOURSELF IN A JIFFY!

Weld, Cut, Braze, Solder; Iron, Steel, Brass, Bronze, Aluminum and other metals safely and easily. Make your wrought iron furniture, porch railings, fences, knick-knacks and other metal specialties. With this fine equipment anyone can do professional-like work with little practice. Tool and equipment breakdowns are annoying and costly. Don't let them bother you. The Dynamic will pay for itself quickly in both time and money and is designed to operate from any properly wired 110 volt AC line.

Order your Dynamic Industrial type transformer Arc Welder for Workshop or Industrial use today. Order from this ad.

Literature on larger equipment available on request.

EASY PAY PLAN

Low down-payment. Pay as you weld. Money back guarantee. Send for details. Complete outfit.

Only $38.50

F.O.B. Factory

DYNAMIC WELDER COMPANY, 1808 S. Federal Street, Dept. D4-K, Chicago 16, Illinois

SPRINGFIELD 30/06 RIFLES AGAIN!

SHARP, CLEAN BORES 4 GROOVES, THE FINEST!

AMMO SPECIALS:

Box of 20 rds. G.I. target, 150 gr....$2.00
100 rds. G.I. target, 150 gr. $7.50
20 rds. professionally loaded soft point hunting, 150 gr. $2.95
20 rds. Rem. or Western Commercial soft point, 110 gr., 150 gr., 220 gr., YOUR CHOICE $4.75

GOLDEN STATE ARMS CORP.

386 W. Green St. Pasadena 182, Calif.

ACCESSORIES BARGAINS

Slings: U.S. gov't regulation cowhide New...$1.95 Used...95c
Swivel handle cleaning rod, 3 pc. & tips solid brass, Gov't issue.....$1.95
Brushes: U.S. Army brass, official, new, 2 for 25c
Oil: G.I. gun oil, 6 oz. can.....25c
Patches: G.I. cleaning patches, flannel (200) 75c
Solvent: G.I. gun cleaning solvent, 6 oz. 25c
Gun Case: G.I. olive drab, heavy-duty, brand new condition, heavy gov't spec. zipper $1.95
Saddle scabbards, U.S. official top quality cowhide, riveted and stitched. NEW $4.95

TO ORDER: Send check, cash or money order. $10 deposit for C.O.D. Shipped RR Ex., charges collect F.O.B. Pasadena, Calif. resid. add 4% state tax. 10-DAY MONEY BACK GUAR. Dealers inquire.

ON SALE JUST $39.95

HUNTERS:

For the first time in 2½ years, we can again offer the famous U.S. Springfield '03 Caliber 30/06. These are guar. very good inside and out, clean sharp rifling. This is most accurate military rifle ever made, most popular hunting rifle and caliber in world. Soft-nose ammo sold everywhere. Single Springfields sell as high as $75. Get yours now while they last!

SPECIFICATIONS:

Model: '03. **Bbl.:** 24", 4 groove (not 2 groove). **Sights:** Famous Springfield sights adjustable to 2700 yds. Windage and elevation. **Stocks:** Gov't selected American Walnut. **Caliber:** 30/06. **Numbers:** all high numbers. **Packing:** Guns shipped to us in orig. army cosmoline. We degrease and oil lightly. Shipped in heavy duty protective packing case. **ALL MILLED PARTS:** no hurry-up war time stampings. **Wt:** approx. 8½ lbs. **Shipping Wt:** 10 lbs.

"Add A Fireplace"

[*Continued from page* 133]

You are ready now to start installation of the pressed steel fireplace. Some tricky measurements are involved here so work carefully. The floor will be level with the hearth and firebox; call this point zero. If you are installing an outside ash dump you will have to figure on setting the outside door at zero minus about 17 inches. This allows for the distance of the drop from firebox to ash channel (about 14 inches) plus a gradual three-inch downslope along the ash channel to the outside exit.

The outside exit may come wholly or partially within the masonry of the foundation, depending on the distance between ground and floor level.

The modern decorating trend nowadays is to use custom-fitted fireplace screens instead of the heretofore conventional stand-up kind. Custom screens have the advantage of occupying no floor space and of course the hazard of falling is completely eliminated. Their installation is a comparatively easy job. The Bennett-Ireland Company of Norwich, N. Y. can supply you with a kit which will fit your fireplace opening exactly if you first measure carefully the exact height and width of your fireplace; measure to the nearest eighth of an inch. The easy installation is shown in the photos.

Only two holes will have to be drilled to mount the screen. In the one type of installation (the one shown) the screen supporting brackets are mounted to the underside of steel lintel. This installation is recommended if the mortar line between the lintel and the masonry is conspicuous. In another style, the installation can be made directly to the brick or stone facing of the fireplace.

Now you're finished. Set a grate in the firebox and light up. You have brought the life and beauty and warmth of an open fire safely into your home. You are fit and hard from a summer's sparetime work. It's autumn now, not yet cold enough to start the central heating system, but with cool enough nights to require some heat. Pile on the logs and listen to them crackle. It's worth the work.—*Woodie Jarvis*

• Same strong quick-setting
ELMER'S® GLUE-ALL
• Same easy-to-use squeeze bottle

BIG NEW ECONOMICAL PINT SIZE!

YOU ASKED FOR IT! An ideal size for home woodworking shops and do-it-yourselfers. Get yours today!

THE Borden COMPANY • CHEMICAL DIVISION
350 Madison Avenue, New York 17, N.Y.

Open rear sights cut the accuracy of modern guns and ammunition *in half*. Lyman *precision* receiver sights deliver *all the accuracy* built into your rifle.

SPECIFY LYMAN SIGHTS With a receiver and front sight combination for all popular rifles, you can have Lyman Sights for your gun for as little as $6.50. You can't buy more accuracy *at any price!*

FREE CATALOG *Discover how* you *can double your shooting accuracy. Send for free, full-color 24-page catalog. Describes* all *Lyman Products for Shooters.*

THE LYMAN GUN SIGHT CORP.
MIDDLEFIELD • CONNECTICUT

FACTORY TO YOU SAVES $150.00
SUPERSHOP Model X

WE PAY ALL FREIGHT FOR YOUR FREE HOME TRIAL

5 Big Power Tools in ONE!

- **8" Saw**
- **Vertical Drill Press**
- **Horizontal Drill Press**
- **8" Sander**
- **5" Grinder**
- **30" Lathe**

Never before so much deluxe, precision-built power tool workshop at any price. Yours for as little as $13.95 down! Full price only $139.50. Mail coupon today for FREE colorful brochures, photos, specifications, accessory list — and full details of amazing freight-prepaid FREE HOME TRIAL PLAN.

POWER TOOLS, INC.
600 Yates Avenue
Beloit, Wisconsin

Name_____
Address_____
City_____ State_____

Lensless Telescope

[*Continued from page* 157]

is extremely small. In order to amplify and analyze these radiations before they are dissipated or contaminated by local atmospheric disturbances or man-made radio waves, the radio receiving set, which may roughly be compared to a television receiver, is located as closely as possible to the aerial. For the same reason the first amplifier is located immediately adjacent to the aerial.

In its final form, the Jodrell Bank radio telescope, as it probably will be called, is a giant dome of steel, 250 feet in diameter. It can be moved on its vertical and horizontal axes and can even be inverted to

75 POWER TELESCOPE 25X-45X-75X $3.98

New 3 in one telescopes, variable 25X-45X-75X magnification. Brass bound, 25 power for ultra bright images 45 & 75 power for long range. Guaranteed to bring distant stars, moons, objects, sports 75 times closer. Most powerful scope sold anywhere near this amazing low price. American made. 5 sections. Opens 36", closes 1 ft.; contains 4 ground & polished lenses. Can also be used as powerful compound microscope. Directions included. Mass production enables us to offer telescope at $3.98 postpaid complete. Money back guarantee. Get yours now.
CRITERION CO., 331 Church St., Hartford 1, Conn., Dept. SML-55

TELESCOPE MAKERS
EVERYTHING FOR THE AMATEUR
BUILD YOUR OWN TELESCOPE—EXPLORE SPACE
Thousands of our customers with no special training have built powerful precision telescopes with our quality supplies, instructions, & guidanes. So can you. MIRROR MAKING KITS, Eyepieces, etc.
COMPLETE INSTRUCTIONS 10¢—FREE CATALOG
PRECISION OPTICAL SUPPLY CO.
1001-K EAST 163rd ST., NEW YORK 59, NEW YORK

SKYSCOPE

The 3½" dia. reflector, astronomical telescope 100% American made. Completely mounted. Used by schools and universities for over 15 years. Unconditionally guaranteed. $29.75. Descriptive literature on request.
THE SKYSCOPE CO., Inc.
475-M Fifth Ave., 17, N. Y.

SAVE! BUY TELESCOPE PARTS DIRECT FROM MFGR.

FREE CATALOG UPON REQUEST. Finished Optics, all types of telescopic mountings and parts. Mounted Eye Systems and Diagonals, Grinding Materials, Pitch and Polishing Materials. Also assembled scopes; all sizes. Money Back guaranteed on all products.
ESCO PRODUCTS
Oakridge, N. J.

250 POWER....

Complete Telescope Lens Kit only **$3.49** postpaid

Conquer Space. Explore the Universe. Planets, Moon Craters, New Stars, etc. Complete Lens Kit consists of 80 inch focal length ground and polished objective lens, eyepiece lenses for 50 POWER, 100 POWER, 150 POWER, 200 POWER, 250 POWER, and all necessary lens fittings. Easy to make from simple step by step instructions. (Tripod and mount not included.) Money back guarantee.
BUSSE SALES CO., Hartford 1, Conn., Dept. ML-55

form the largest domed roof in the world.

At present, as more and more time and talent are devoted to radio astronomy, this giant will undoubtedly increase our knowledge in this phase of astronomy the way the Mount Palomar telescope increased our visual and photographic knowledge of the heavens.

3 INCH WITH 3 FT TRIPOD

50, 105 and 310 POWER
REFLECTING TELESCOPE $24.95 COMPLETE
PLUS 3 POWER FINDER SCOPE

SHIPPING WEIGHT 10 LBS

A professional-performing instrument for serious minded Astronomers, Saturn's rings, Jupiter's satellites, moon's mountains and craters are but a few celestial wonders to be seen clearly and distinctly. Telescope is 38" bakelite tube mounted on rigid 3 ft. hardwood tripod with cast iron head. Has equatorial and altazimuth mount. All-machined polar and declination axes have tension screws on each. A 3" F-13 mirror aluminized and overcoated guaranteed to resolve to Dawes limit for its size. A 3X finder scope quickly locates target. This all-assembled telescope with 3 eyepieces, finder scope and tripod $24.95 FOB Mattituck. Sent express. Satisfaction guaranteed.

SUFFOLK SCIENCE SERVICE, Dept. MI-10, MATTITUCK, N. Y.

WE GUARANTEE:

If you spend twice as much . . . you can't buy or build a finer Precision Reflector Telescope . . . than the

4" DYNASCOPE REFLECTOR

ONLY $49.95 COMPLETE

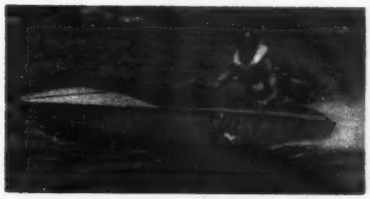
F.O.B. Hartford, Conn. Shipping weight 14 lbs. Express Charges Collect

Yes, we'll guarantee that the 4 inch Dynascope Reflector, world acclaimed by schools, universities, planetaria, is the finest professional telescope available under $100! Complete with new improved Combination Equatorial and Altazimuth Mount with Pole-Making Polar Axis Rod — three Achromatic Eyepieces, 65X, 130X and 167X—4-inch Parabolic Mirror—4-power Achromatic Finder Scope—Rack and Pinion Focusing—and Hardwood Folding Tripod! Try it yourself—at our risk! You'll be thrilled. You'll agree that you can't duplicate this superb instrument anywhere else at double the price—or send it back within 30 days for full refund. Send check or money order today.

Other Reflector Telescopes 3" to 8" $29.00 to $250.00
Send for FREE Illustrated Brochure

THE CRITERION MANUFACTURING CO.
Manufacturers of Quality Optical Instruments
Dept. DM-19, 331 Church St., Hartford 1, Conn.

JINX



Build this fast, 11-foot, stock utility racing hull. She's plywood-planked over spruce framing and construction is simple. Order a set of plans from MI Plans Service, Fawcett Building, Greenwich, Conn. Price is $2.00. Specify JINX, Plan No. B-222.

OPTICAL BARGAINS

See the Stars, Moon, Planets Close Up!
3" ASTRONOMICAL REFLECTING TELESCOPE
(Famous Mt. Palomar type)
60 & 120 Power—An Unusual Buy!

Assembled and Ready to Use! You'll see the Rings of Saturn, the fascinating planet Mars, huge craters on the Moon. Aluminized and overcoated 3" diameter high-speed f/10 mirror. Telescope comes equipped with a 60X eyepiece and a mounted Barlow Lens, giving you 60 & 120 power. Optical Finder Telescope included. Sturdy, hardwood, portable tripod. Free with scope: Valuable STAR CHART and 272 page "Astronomy Book."

Stock No. 85,050-B ..... $29.50 f.o.b.
(Shipping wt. 10 lbs.) Barrington, N. J.

4¼" ASTRONOMICAL TELESCOPE

Mt. Palomar type! Up to 270 Power. A fine Reflector Telescope complete with real Equatorial Mount and Tripod. Aluminum tube, 4¼" dia. mirror, rack and pinion focusing eye-piece holder, 2 eyepieces and mounted Barlow Lens for 40X, 90X, 120X and 270X. Shipping weight approx. 25 lbs.

Stock No. 85,008-B ..... complete, $74.50 f.o.b., Barrington, N. J.

NEW! STATIC ELECTRICITY GENERATOR

See a thrilling spark display as you set off a miniature bolt of lightning. Absolutely safe and harmless. Stands 14" high. 9" plastic discs rotate in opposite directions. Metal collector brushes pick up the static electricity, store it in the Leyden jar type condenser until discharged by the jumping spark. 24 page Instruction Booklet included.

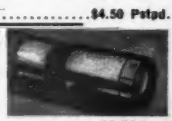
Stock No. 70,070-B ..... $10.95 Postpaid

New! 2 in 1 Combination! Pocket-Size
50 Power MICROSCOPE and 10 Power TELESCOPE

Useful Telescope and Microscope combined in one amazing, precision instrument. Imported! Telescope is 10 Power. Microscope magnifies 50 Times. Sharp focus at any range. Handy for spots, looking at small objects, just plain snooping. Send Check or M.O. Satisfaction Guaranteed.

Order Stock No. 30,050-B ..... $4.50 Pstpd.

MOUNTED BARLOW LENS



Double and triple your Telescope's power with a Barlow Lens. Ours is mounted in chrome-plated, brass tubing with variable spacers—just slide this mounted negative lens into your 1¼" I.D. eyepiece holder, and use your regular eyepieces in it. Fully guaranteed to please you.

Stock No. 30,200-B ..... $6.00 ppd.

6X FINDER TELESCOPE

Has crosshairs for exact locating. You focus by sliding objective mount in and out. Base fits any diameter tube—an important advantage. Has 3 centering screws for aligning with main telescope. 20-mm. diam. objective. Weighs less than ½ pound.

Stock No. 50,121-B
$8.00 ppd.

BUILD A SOLAR ENERGY FURNACE

Great Project for Geophysical Year!

A fascinating new field. Build your own Solar Furnace for experimentation—many practical uses. Easy! Inexpensive! Use your scrap wood. We furnish instructions. This sun powered furnace will generate terrific heat—2000° to 3000°. Fuses enamel to metal. Sets paper aflame in seconds. Use our Fresnel Lens—14¾" diameter . . . f.l. 14". See April 1956 Mech. Illus. Page 153.

Stock No. 70,130-B . . . package of 1 ..... $ 6.00 Pstpd.
Stock No. 70,131-B . . . package of 2 ..... 11.00 Pstpd.
Stock No. 70,132-B . . . package of 4 ..... 20.00 Pstpd.

INFRARED SNIPERSCOPE TELESCOPE & PARTS

See in the dark—without being observed. War surplus Sniperscope M-2. Gov't. cost about $500. Instrument complete, ready to use. Includes Power Pack, infrared light source. Will operate from 6 V auto battery. You must furnish battery or transformer.

Stock No. 85,053-B ..... $150.00 f.o.b.

Save still more money! Build your own Sniperscope! We will furnish instructions—parts, including: Power Packs, 1P25A image tubes, light units, filters, etc. For details—request FREE Bulletin A-26-B.

SIMPLE LENS KITS! Fun for adults! Fun for children! Kits include plainly written, illustrated booklet showing how you can build lots of optical items.

Stock No. 2-B—10 lenses ..... $ 1.00 Postpaid
Stock No. 5-B—45 lenses ..... $ 5.00 Postpaid
Stock No. 10-B—80 lenses ..... $10.00 Postpaid

WRITE FOR FREE CATALOG "B"!

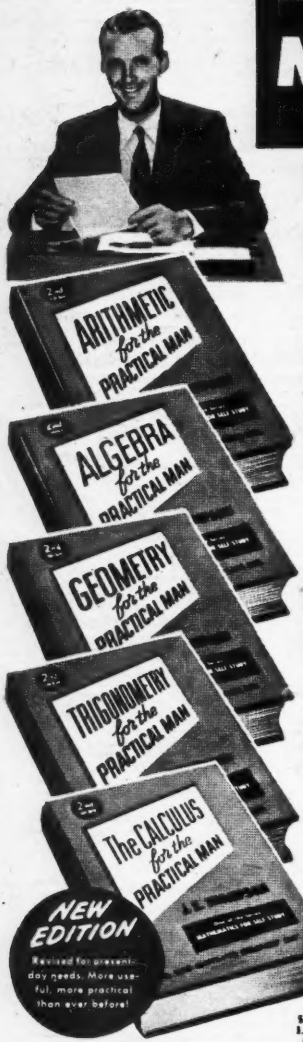
Complete Line of Astronomical Telescope Parts and Assembled Telescopes. Also huge selection of lenses, prisms, war surplus optical instruments, parts and accessories. Telescope, microscopes, binoculars, etc. Request Catalog "B"!

ORDER BY STOCK NUMBER. SEND CHECK OR MONEY ORDER. SATISFACTION GUARANTEED.

EDMUND SCIENTIFIC CO., BARRINGTON, N. J.

This Practical Self-Study Course will give you

A COMPLETE MASTERY OF MATHEMATICS EASILY, QUICKLY



Learn Mathematics... get a BETTER JOB!

Now you, too, can learn mathematics and get the basic training for a better job... the kind of training that is quickly recognized today and gladly paid for.

Just look at the "help wanted" ads in any big-time newspaper—look at the hundreds of wonderful opportunities for men who know mathematics: superintendents and foremen, technicians and laboratory workers, designers, draftsmen, mathematicians and engineers. Look at the huge companies—page after page of them—that are advertising for help *every day in the year!* They all need trained men, men who know mathematics, to help them keep up with the ever-increasing demands in aviation, electronics, nuclear science, automation, jets and missiles.

Now you can learn mathematics—the foundation of all technical work—quickly, easily, inexpensively and right in your own home. A very simple and interesting course in book form has been prepared for you by an expert who has devoted a lifetime to teaching practical men the fundamentals of this important subject. Every minute you spend on this complete, practical course in mathematics will pay you big dividends.

MATHEMATICS For Self Study

By J. E. Thompson, B.S. in E.E., A.M., Dept. of Mathematics, Pratt Institute

A COMPLETE COURSE AND REFERENCE LIBRARY

You start right from the beginning with a review of arithmetic that gives the special short cuts and trick problems that save countless hours of time. Then, step by step, you go into higher mathematics and learn how simple it all can be when an expert explains it to you.

Get This Training in Only Ten Minutes a Day

You can gain all the benefits of a mathematical training in just a few months if you will devote only ten minutes each day to these easy, practical lessons.

An Expert Gives You His Simplified Methods

Prof. Thompson, the author of these books, is an expert at teaching *practical* Mathematics. He presents each problem in the clearest, simplest way. He gives you the kind of information you need for *success!*

Here are but a few of the hundreds of subjects simplified and explained in this complete self-study course in mathematics:

ARITHMETIC: Starting with a quick review of principles, this book gives you the special calculation methods used in business and industry that every practical man should know. Above all else it shows you how to attain speed and accuracy with fractions and decimals, ratio and proportion, etc. Fundamentals in all computations in engineering—in both plant and field—and the essential methods for rapid calculation are made clear and simple.

ALGEBRA: This volume makes algebra a live interesting subject. The author starts with simple problems that can be solved by arithmetic and then shows you how to apply algebraic methods. Among other subjects, it teaches you all about logarithms—the method of computation that engineers use to save time. It also shows you how to solve problems which are involved in business and industrial work relating to machines, engines, ships, autos, planes, etc.

GEOMETRY: This book gives you the practical common-sense method for solving all problems in both plane and solid geometry—problems ranging from the simplest distance problems to the geometry of spheres which have applications ranging all the way from the atom to the earth itself.

TRIGONOMETRY: Practically every problem in machine work, land surveying, mechanics, astronomy and navigation is solved by methods of trigonometry, and this interesting volume makes the methods of solving them clear and easy. These methods are explained simply with actual examples of calculations of height and distance as applied to meteorology, the position of a ship at sea, the construction of buildings, bridges and dams, the cutting of gears, etc.

CALCULUS: This branch of mathematics deals with rate problems and is essential in computation involving objects moving with varying rates of speed. It also enables you to find the most efficient design for any kind of mechanism, engine, or moving vehicle.

5 VOLUMES
1,500 Pages
Illustrated

MAIL THIS COUPON

D. Van Nostrand Company, Inc. MI 107
120 Alexander Street, Princeton, New Jersey

Send me MATHEMATICS FOR SELF STUDY in 5 volumes. Within 10 days I will either return the books or send you $1.85 as first payment and $2.00 per month for four months until the total price of $9.85, plus a few cents' postage, is paid.
(If you send $9.85 with this coupon, we will pay the postage. Same return privilege, refund guaranteed.)

Name_____

Address_____

City_____ Zone_____ State_____

In Canada: Order from D. Van Nostrand Company Ltd. 25 Hollinger Road, Toronto, Canada

SEND NO MONEY

Examine These Books for 10 Days FREE!

Send no money now, not a penny! The coupon at left will bring you the complete course in book form for 10 days' trial. Unless you are convinced that it is exactly what you need and want you may return the books and owe nothing or you may keep them by sending us the small down payment of $1.85, balance in four monthly payments of $2.00 each. Take advantage of this opportunity to acquire a complete training in mathematics this simple, inexpensive way.

Thousands of Jobs Are Waiting for Trained Men

Industry is working at top capacity to meet the needs of our gigantic industrial program. Trained mechanics and technicians are in urgent demand, and in practically ALL OF THESE JOBS a knowledge of mathematics is required.

Remember, mathematics is the foundation of all technical work. Give yourself this basic preparation now by this quick, convenient, inexpensive method.

PRINTED IN U.S.A.

S

B!

em
nds
ce,

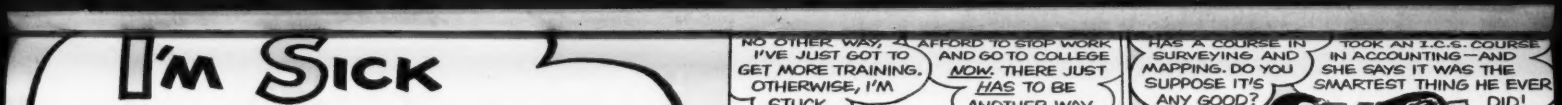
the
ck-
our
ing
red
d a
the
ect.
om-
tics

of
at
ics.
in
He
ma-

bs
ien
city
ntic
me-
ur-
ALL
of

the
ork.
tion
in-

PRINTED
IN
U.S.A.


I'M SICK
NO OTHER WAY, I'VE JUST GOT TO GET MORE TRAINING. OTHERWISE, I'M STUCK
I AFFORD TO STOP WORK AND GO TO COLLEGE NOW. THERE JUST HAS TO BE ANOTHER WAY
HAS A COURSE IN SURVEYING AND MAPPING. DO YOU SUPPOSE IT'S ANY GOOD?
TOOK AN I.C.S. COURSE IN ACCOUNTING—AND SHE SAYS IT WAS THE SMARTEST THING HE EVER DID!

I'M SICK AND TIRED OF WAITING!

1. EVERYTHING COMES TO HIM WHO WAITS? THAT'S A LAUGH. I WAITED FOR THE BREAK. WAITED 'TIL I WAS SICK OF IT. HOW LONG CAN A GUY WITH A WIFE AND KIDS GO ON DREAMING?

THIS IS THE TRUE LIFE STORY JOHN W. HARVIN, JR. OF DAYTONA, FLORIDA. FROM OUR I.C.S. SUCCESS FILES

4. THAT SETTLED IT! I DECIDED TO FIND OUT WHAT I.C.S. WAS ALL ABOUT. AFTER ALL, WHAT DID I HAVE TO LOSE?

2. MY WIFE AND I THOUGHT ABOUT IT, TALKED ABOUT IT, WORRIED ABOUT IT. WE WERE STUMPED. WE THOUGHT WE HIT A DEAD END

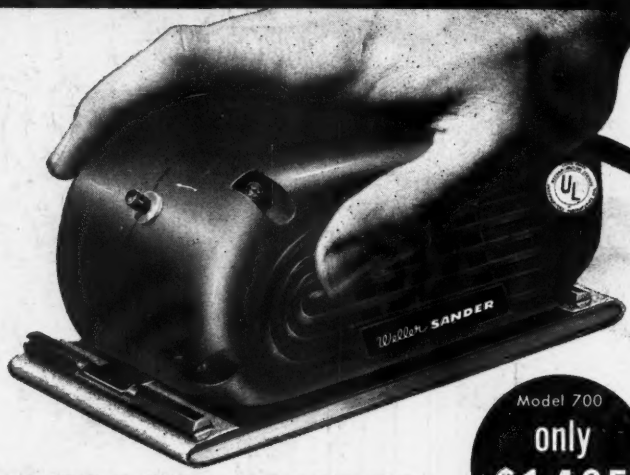
ONE DAY—MY LUCKY DAY—I TOOK A CLOSE LOOK AT THAT FAMOUS I.C.S. COUPON. I'D SEEN IT BEFORE A THOUSAND TIMES. BUT THIS TIME I REALLY *LOOKED*

I.C.S. IS THE OLDEST AND LARGEST CORRESPONDENCE SCHOOL IN THE WORLD. 257 PERSONALIZED-INSTRUCTION DIPLOMA COURSES

5. WHEN I SAW THE THREE FREE BOOKS, I KNEW I'D FOUND THE ANSWER. I ENROLLED—AND I WAS ON MY WAY!

6. JOHN HARVIN'S SUCCESS STORY CAN COME TRUE FOR YOU, TOO. HERE'S THE FAMOUS I.C.S. COUPON. LOOK IT OVER. CLIP IT. *MAIL IT NOW!*

The POWER TOOL FOR BUSY PEOPLE



Model 700
only
$14.95

WELLER SANDER

For the bustling handyman who does everything or the weekender who wants to get done fast . . . the Weller Power Sander is the most useful tool you can invest in.

The Weller Power Sander and Polisher has more than twice the sanding area of any sander in its price class. It gets jobs done faster and easier. The straight-line action sands satin-smooth with the grain and it goes all the way into corners. The low design is only 2 15/16" high and goes under radiators and other hard to reach places.

The Weller Power Sander features a positive paper grip that cannot slip and needs no special tools for paper replacement.

Powerful reciprocating motor has no gears, never needs lubricating. Lightweight design fits snugly in hand and is ideal for vertical sanding—feathering dry wall seams, etc. Guaranteed 1 year.

Weller
ELECTRIC CORP., Easton, Pa.

Also available in complete sanding kit, including: all-metal case for carrying or storing, assorted sandpaper and polishing cloth. Weller model 700K $16.95.